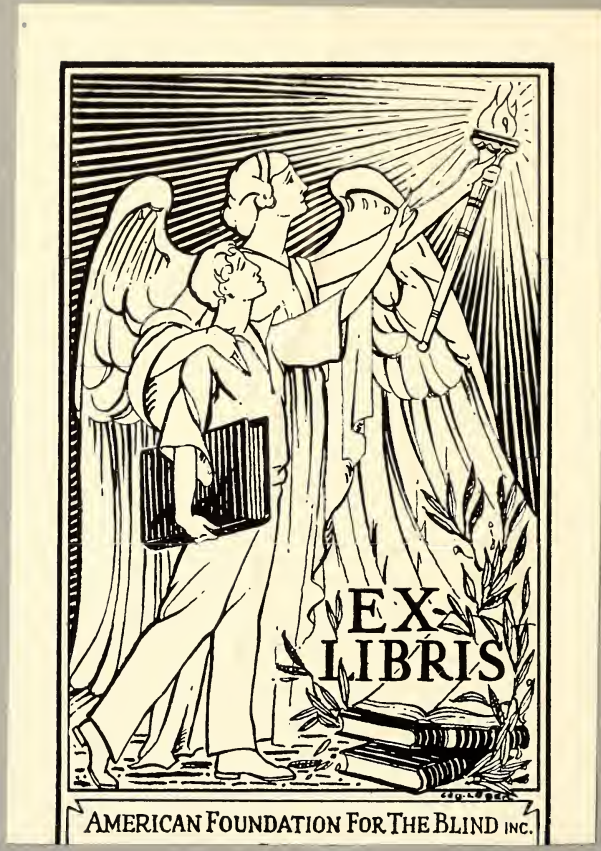

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The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

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THE EDUCATION OF THE BLIND CHILD AND OF THE SEEING CHILD

RICHARD SLAYTON FRENCH, Ph.D.

The first keen interest in the education of the blind arose late in the seventeenth century in connection with the problem of the nature and origin of ideas. Though this problem was raised earlier by Descartes and Hobbes, it was first frankly and fairly adequately discussed in its modern form by Locke in the "Essay Concerning Human Understanding." The "Essay" is no longer widely read and its psychology is no longer in fashion, but its seed-thoughts, scattered broadcast by Locke's popularity in the France of Voltaire and Rousseau, have borne fruit a hundred fold and in turn seeded new crops again and again. Locke, though by no means committed to pure sensationism, stands at the beginning of the school of thinkers sometimes designated as the sensationist or sensualist psychologists—neither term is very happy. Their thesis is that there is "nothing in the intellect which was not previously present in sense impression (*in sensu*)." Modern scientific psychology agrees in the main with this thesis but finds it in need of both limitation and interpretation.

The outstanding exponent of the Lockian point of view in the eighteenth century, the great encyclopedist, Diderot, out-Heroded Herod in committing himself to the general sensationist theory. In particular he both observed and theorized about blindness in a much more far-reaching way than Locke and reached materialistic conclusions not justified either by his facts or by his own logic. He did, however, become the prophet of a new education, far more effective than anything the world had ever known and of which we have not yet seen the end. He briefly set forth the praticability of educating not only the blind but the deaf-blind as well, by the persistent attachment of tangible labels to things or objects and then proceeding, still through tangible symbols, from things to qualities and from qualities to relationships. This was in 1749. Read Dr. Samuel G. Howe's account of the education of Laura Bridgman (1837 and the years following) and that of Helen Keller as set forth in the text and original notes to *The Story of My Life,* and the parallel between the accomplished fact and the statement of theoretical possibility is seen to be too close for mere coincidence. Had Diderot gone on to the logical development of his thought into a system of education, he would no doubt have given us the most extreme of sensationist theory and practice. He would probably have confined education to a very narrow object-teaching, a "learning through doing" in its crassest form, with an emotional sterility and with hampering linguistic limitations, and probably with a less social point of view than is to be found in Rousseau's *Émile.*

In his *Émile,* which appeared in 1762 and from which the main progressive movements in modern education arise, Rousseau departs from the sensationist model of Diderot and Condillac precisely in those particulars in which adherence to any pure sensationist system becomes destructive of higher human values. Thus while the education of the blind is taken as the model of sense education and the teacher is exhorted to fall back on sense experience as the foundation of all clear and solid thinking, Rousseau puts such sense education as the first step only and rightly stresses the development of the emotions, including the esthetic, and of right attitudes, including the social, as equally essential developments from *and beyond* the sense beginnings.

It is a far cry from 1762 and Rousseau's *Émile* to 1932 and the present-day education of visually defective children, yet I doubt if we have caught up with the precisely stated theories of Rousseau and of Diderot, to say

nothing of the implications and ramifications of their doctrines. Thus in nine "blind" schools out of ten and in ninety-nine "seeing" schools out of a hundred, while there is plenty of lip-service to object-teaching, the objective method, "problem-project" and what not, the courses in general and the scholastic life of the child remain dominantly verbal and sterile in those very procedures and values for which modern education is supposed chiefly to stand. I do not vouch for the exact percentages but I am willing to stand by the relative figures, with the implication that while these schools for the blind are very far from the goal, they are much nearer the ideal in many of the things that count for most, than are schools for the children of normal or nearly normal vision. Schools for these latter have become too dominantly visual, and "just to sit and see" is still further emphasized by so-called silent-reading methods or even the use of the movies in the school. As if mere quantity of reading or of visual impressions in general were a *desideratum!*

As an educationist of a quarter of a century's experience with students and pupils having all degrees of vision and intelligence, from kindergarten to doctor's degree, I can testify that the two things most lacking in the education of present-day childhood and youth are comprehension or grasp on the one side, and coherence or unity on the other. I have heard children in up-to-the-minute elementary schools recite with a deceptive glibness that concealed appalling abysses of intellectual vacuity and I have seen the same groups (in type) coming up for their doctorates in philosophy with a most amazing assortment of undigested misinformation—no precision or grasp in anything save perhaps some half-baked pseudo-statistical method, no mellowness, no wisdom, no unity of knowledge or of personality.

And I have watched blind children and youths these twenty-five years and have seen—amongst all the students I have known—the surest grasp of fact and theory and the richest, mellowest thinking, expressed in the choicest, sometimes the loveliest of English. They had thought long and well over a few things, not over a miscellaneous hodgepodge of things in general, purely visually conceived, accepted and never pondered, never weighed, never evaluated. I was present at the Ph.D. examination of a young blind man, deeply steeped in the thought of the greatest thinkers of all ages—Plato, Aristotle, Aquinas, Kant, Mill, Bradley—the masters of logic. He had chosen one of the hardest, most abstruse logical problems. He was attacked from all angles by acute minds. Yet he was never at a loss for an answer. He "came back," always in English that could stand as a model of purity and style, with a clarity and precision of thought that would have brought cheers from an audience used to Aristotle or Aquinas. And he was not a student of the classics—so far as I know he uses only English with any great degree of ease. But he *thinks*—and if we could only make students think, and think for themselves, there might be some hope for education.

Students, pupils, in our schools, public and private, *ingest* what is given to them, their "activities" as well as their solid studies. But they do not *digest*—they do not make their own what they receive. They are become mentally weak-kneed and saddle-soft; they can neither progress except in mental wheel chairs, nor bear a burden. They "like their schools," perhaps, as a means of escaping whatever may be left of home duties but—to an extent so great as to be alarming—they are educated for the inanities of the movies, the radio, and the Sunday supplement, and other features of their round of cheap amusement and shoddy workmanship. They are wonderfully efficient at touching buttons to turn on currents, wielding can-openers and eating in cafeterias. This may be a sweeping indictment and no doubt many exceptions should be made—but both education and life are made too easy for our boys and girls. They themselves do not want it so, Heaven knows, and they struggle against such stultification; but

modern life, including parents and teachers, constitutes a conspiracy against them, to make things easy.

Now, life at its best is not easy for the blind person. This much "reality" he has thrust upon him. He must learn through meager and restricted channels, and of many things he must learn only at second hand. He has, therefore, to make much of his little store: to enrich with meditation what he has laboriously acquired, by touch, by hearing, by finger-reading, from all the world's vast storehouse of knowledge and of the knowable. His riches become those of intensity rather than extension. Even his chief enjoyments are of the more intensive type—music, the spoken drama, debate and conversation—direct or over the radio.

I am not defending the thesis that eyes are a hindrance to education—far from it. But the seeing can take this leaf from the notebook of the education of the blind—to read with understanding is better than to read much; pondering what is read multiplies its meaning; one "touch" of reality is worth a world of idle gazing; to express well in words what you learn makes your knowing much more richly your own. The seeing can add only this axiom, *yes, and to put into act what you know consummates the series*—and the inability of the blind to do this is one of the saddest aspects of our work. But even in this respect the blind are by no means helpless and have much to teach the seeing.

After writing the above paragraph I stepped out of my office for a breath of fresh air and a few minutes' rest. My attention was caught by two small boys, one totally blind and the other nearly totally blind. They were hunting over some rubbish near an unfinished building, "looking" for old tin cans and pieces of wood suitable for bats for their "tin-can" game—a modified form of indoor baseball. They play the game with a battered tin can on a concrete floor, guiding their movements almost wholly by sound, hitting the "ball" a fair percentage of times, locating it as it rolls rattling over the hard surface. In hunting bats and cans the boys used their feet and hands and ears. Boards were located by feel and size, hands being called in for more accurate tests where a stick or small piece of lumber was located by foot. Cans, of course, rattled when touched by the shoe; a piece of roofing tin was picked up but instantly thrown aside. A boy reduced one bat which was a bit too big, to proper size by laying one end of it on a step and jumping on it at the right point—apparently the splintery end of the selected fragment was not a serious hindrance.

Bats and balls selected, the two boys called for some friends and started the game, which I did not stop to see, having observed it many times with an interest that never wanes. Blindfold two boys of normal sight and see how much they would do in a similar situation! How little we use other senses than sight—even our hearing is the slave of sight; how often we pause on a word read aloud or heard by telephone and ask, "How do you spell it?" We must *visualize* even to hear. Read Helen Keller's *The World I Live In* and see how rich our sense life is and, by contrast, how we "sighted" pass up a thousand intimate and enticing things each day, each hour, because of our slavish devotion to the visual. How much more richly we might learn if we could only call in the other senses to aid and correct sight!

Yes, *correct,* for is not sight the chief source of illusion? Which leads to the thought that psychologists, philosophers and educators sedulously avoid at the present time the major problems of "how we think," being too much taken up with the (perhaps) more obvious but no more interesting problems related to behavior, asking, "Why We Behave Like Human Beings"? When psychologists return to the problems that will not down, the problems of not only "how we think," the mechanical symbolism of thought and so on, but "how we can think at all," what thought is, the why of words and symbols, psychology will itself be enriched. Instead of fatuously measuring

I. Q.'s—which have their place—we will study the thought-processes of the blind again, and general psychology and general education will gain a new point of view and perhaps new starting points in practice by determining whether a cube and a sphere, tactually conceived, are mentally the same as a cube and a sphere, visually conceived—with the possible conclusion, and probable conclusion, that some of the older thinkers were right in their statement, crudely expressed and crudely thought out, that cube and sphere are thoughts, not things, and that of the two experiences—thing, or material reality, and thinking—neither is the elder, the antecedent—they may be parallel aspects of the same thing. And a blind man can see *that* quite as clearly as the man of perfect vision, if such exists.

Thus we return to our starting point, John Locke. But the excursion of two-and-one-half centuries leads us through a fascinating history, not the least interesting being its later aspects. The research departments of the American Foundation for the Blind, New York, the experimental school at Perkins Institution in Watertown, Massachusetts, many of the individual schools for the blind and many independent workers, are making serious and intelligent studies into every phase of education and after-life. These studies run over into the fields of the education of the visually normal. They are both extensive and very intensive. They have already achieved notable results but promise still more important findings. Let us hope that among other things they may find a way back to educational and psychological sanity, to true science, and a way out from the fallacious absurdities of Freud, Jung and other "misbehaviorists."

The laws of North Dakota, Michigan and Minnesota providing special funds for the maintenance and education of blind babies in special homes have been repealed.

THE FOUNDATION LIBRARY

The *Contemporary Review* for February, 1932, contains an article by Paula Arnold called "Teaching the Blind to Model," which is a description of what is done in this line in the Jewish Institute for the Blind, Hohe Warte, Vienna. Dr. Löwenfeld, a painter and the brother of Dr. Barthold Löwenfeld, who is known to American readers from his stay in this country for study purposes during the past school year, 1930 to 1931, has taught this subject for six years. To quote the article: "for the little children he has found a means of indulging their restless urge for activity, . . . for adolescents Löwenfeld's teaching means much more than an outlet for creative impulses; it has enabled them for the first time to indulge in self-expressions other than written or moral outpourings of the soul." Part of this article was reprinted in the May, 1932, issue of the *Teacher of the Blind.*

The National Institute for the Blind in London, England, has recently issued a bulletin called "Museums and the Blind." As this subject seems to be of special interest these days, we should like to call attention to the pioneer discussion of it, an article by J. A. C. Deas, "The Showing of Museums and Art Galleries to the Blind," in the *Museum Journal* for September, 1913. This illustrated article is in the form of a report of the work with the blind in Sunderland Library, Museum and Art Gallery, and is referred to repeatedly in the National Institute bulletin. The *Beacon* and the *New Beacon* record the progress of this work in England.

Another of the recent bulletins issued by the National Institute for the Blind is "Gardening for the Blind." There is an introduction by Mrs. Duncombe, the founder of the Guild of Blind Gardeners. Lists of references on the three subjects mentioned have been compiled and may be had on application. All the references mentioned may be borrowed from our library.

HELGA LENDE, *Librarian.*

THE AMERICAN MARATHI MISSION SCHOOL FOR THE BLIND IN INDIA

MARGARET OWEN THOMAS

Ours is the privilege of trying to help a very small, but not a trifling, number of India's blind to a fuller life. The American Marathi Mission School for the Blind was established in Bombay in 1900, during famine times, by Miss Anna Millard, one of the Mission ladies. She mothered it for many years, and finally procured for us the fine building which we now occupy. From the little group of three with whom the enrollment started, 254 children have been admitted to the School up to date. The present enrollment is forty, which number happens to be evenly divided between boys and girls. The pupils range in age from six to thirty years. We try to keep our upper limit at around twenty years. This is very hard to do, however, especially with the girls, because of the terrific problem of after-care or employment.

The All India Blind Relief Association estimates the number of blind in India to be four or five for every 1,000, or about one and a half million. How can it be that out of that vast number we have but forty in our school for the blind? Reasons are many. First, our School can draw only from the Bombay Presidency, whereas the one and a half million is for the whole of India—and India is a very large country. Then too, there are the traditions and customs of the people, the isolation of the villages, the castes and creeds, the different vernaculars, all of which are factors militating against education.

The East does not look on begging as the West does, and consequently those who have a good "appeal" to make to the almsgiving public are well able to "earn" enough to keep them, and often the rest of their families in the bargain. Thus, among the uneducated masses, the stronger appeal that begging has over education and honest labor makes them feel that years at school are wasted. Grounded in years and years of custom so that it is in no way dishonorable to them, begging capitalizes their handicaps and those of their children. Moreover, the idea that the blind can "do" anything is absolutely incredible to hosts of people.

India's population is approximately nine-tenths rural. An appalling number of the villages never see nor hear of really scientific medical practice. Many are so far removed from railways that it would take days of laborious travel to get to them. And if they did get out, where would they find the money to pay for transportation? Isolation keeps many people from the knowledge of what the blind can learn and do, and away from the knowledge of the joy and satisfaction this learning and doing brings.

Two years ago one of our girls left us for the long vacation, to spend it with her family. The two months of vacation went by, and most of the old pupils returned. But nothing was heard of Asri. She did not come. The whole year passed and we did not know where she was. Another whole year passed. Then one day a letter from a missionary said that he had found one of our former girls off in a tiny village where he went once in a great while. He told of trying to persuade her parents to let her return to school. The mother was ill and crippled. The father was old. Asri had helped them a lot in spite of her blindness, and they did not like to let her go from their lives. But finally they consented, and she was sent back to us. Never would her own family have cared enough, or had money enough to get her out of the little village miles from the railroad. She is indebted to that kind missionary who found her in his touring. Now Asri, her face heavily pocked by the smallpox which made her blind, is recovering from the two years of sober and isolated living, and recalling many of the things which she had learned before she left us.

When one thinks of India, almost the first association is the word "caste." Were there no caste, with its rules which govern all parts of living, we might have more children. Recently the principal of a Hindu school for blind boys asked me if I could take some Hindu girls. Our School and a home for blind women in a neighboring city under the Ramabai Mukti Mission, are the only institutions for the blind in the Bombay Presidency where girls are admitted as boarding pupils. Admitting Hindu girls is easy. Keeping them, their families, and the rest of the school happy after they are admitted, is the problem. However, we are hoping that something will come of this query.

There are five or six girls who want to come to school, but Hindus are not always eager for their children to mix with children of other faiths. Their parents must be persuaded that the care they will receive in our School will be proper, and that their girls will be safe. If consent is given for the girls to come, their food will have to be cooked in a different kitchen, and by a Brahman if any one of the girls should happen to be a Brahman. Their meals will have to be served in a separate room. It happens that at present we have one Parsee girl, and all the rest are Christians. There is no difficulty with Dina, the Parsee, for her religion does not prescribe many restrictions. Her chief problem is the number of Parsee holidays that take her away from school! Pupils of other religions are free to come to Bible classes or not as they wish. Generally they join with others in the singing of hymns, for they enjoy the music. The principal of the Hindu boys' school told me that he had recently procured a copy of the Christian hymn book, and was picking out some of the hymns which did not offend them, and which did not contain the name Christ, and teaching them to his boys, who were very fond of them.

Then there was John, a Mohammedan boy. He was brought to us by an interested Parsee gentleman who found him wandering on the streets. He had come alone from the North, "bumming" his way on the trains, with a fervent hope that he could, from Bombay, go on a pilgrimage to Mecca. Perhaps he thought that at the shrine, there, he would regain his sight. He came into School rather unwillingly, sensing that his great hopes would not be fulfilled in such a place. For some months he stayed with us. We tried and tried to make him happy, hoping that when he once got a taste of some knowledge, it would intrigue him on. But not so. Next door to us is a Mohammedan mosque. Daily hearing the call to prayer, yet getting no nearer to his Mecca, proved too much for John. His great desire burned on. One day he told us that if we did not take him to a large mosque he would run away. We knew that he was in earnest, so we placed him in the courtyard of one of the larger Musjids of the city, where he, with firm conviction, knew that he would be cared for and instructed in the Koran. Thus he could see himself drawing nearer and nearer to Mecca. Where he is now we do not know. Doubtless he is well cared for. At the present time there are pilgrimages going on, so it may be that someone has helped him to go to Mecca. Religious differences deprive many of an education.

Those who apply to us for entrance we try to investigate to insure that they are not markedly deficient in mentality, so that we may be fairly sure that they will really profit by either the academic or the technical training which we give. Parents, friends, or missions who send children to us, are asked to pay enough fees to cover board and clothing. No tuition is charged. But there are very few who pay the entire cost even of board and clothing. So our fees vary in size, according to the status of the pupil. The most we ever charge is ten rupees a month. That, converted at present exchange, is approximately three dollars!

Indian schools go by "standards" instead of "grades." The difference is mostly a matter of name, though there are "infant" and "primer" classes before the first stand-

ard. In our School we teach through the fourth standard, following rather closely the lines of the regular Government code. Marathi is our vernacular, as that is the most used vernacular around this part of the Bombay Presidency. Since braille literature is so limited in Marathi, English is a regular subject for all. Reading, Writing, Arithmetic, History, Geography, Nature Study, Hygiene—these all are part of the curriculum. Marathi and English songs are taught in the music course. A blind man teaches the Marathi section, both vocal and instrumental. The instrument we use is the harmonium, or baby organ. Marathi music cannot be played on the piano. Our boys also learn to play the "tabla"—the Indian drums, and cymbals. These form a very necessary part of Marathi musicals!

For those with whom we deal, technical and vocational training are most important. All of the pupils learn to cane. We take in small orders for repairs of chairs, the making of baskets, stools, and such things. All learn to knit. Girls learn to sew, and two or three have become very successful on the sewing machine. They get very practical experience by doing the main part of the sewing of the girls' clothes. Bead work has been one of the industries for a long time. The making of necklaces we have not encouraged so much of late because it is so dependent on non-Indian trade for any profit to us. Our problem is to find Indian products which will draw Indian customers.

Another problem we are facing at present is how to finance a carpentry teacher, that we may teach the boys carpentry, and at the same time add more variety and durability to our cane furniture.

Often I think back to the corrective gymnastics, the corrective speech, and the fine advantages for physical culture that one finds in the United States. We need such aids out here most woefully. But we have neither the trained teachers, nor the finances to introduce them. Yet we do try for some physical development. A small playground gives the children swings and a shoot-the-chute. The boys keep rabbits. At present all are quite excited over building a hen house out of odds and ends that they can find, that they may with little expense house the poultry which we are going to buy for them.

Girls and boys share in the housekeeping. We have one large building divided into two sides—one for boys and one for girls. The upstairs is the dormitory. The downstairs is the school. The children do the sweeping and the dusting. They oil the woodwork. Sometimes they even help to apply the color wash to the walls. Recently our cook woman fell ill. The older girls who had been understudying her, stepped into her place. They are still filling it satisfactorily, and we are not going to have to employ the woman again. The girls enjoy it for it is responsibility, and they are helping to support themselves.

Our book problem is a very grave one. It is closely connected with the problem of a system of braille. Already there are about a half a dozen different systems in use throughout India. The fact that there are so many different vernaculars complicates matters. Until one system can be adopted for use with the vernaculars of at least one district, a braille press is not practical. Fortunately the adoption of such a system is under consideration here in this Presidency. There are still some last perfecting touches to be added to the alphabet, but it seems that at least in this area one system will soon be adopted. Whether all schools will agree is still unsettled. We can only hope—and then hope that having adopted it they will work together in the establishing of a press.

At present all of our books are copied off by hand. This makes them expensive, subject to errors, and not durable. The amount of literature that we can have in Marathi is thus limited. As a matter of fact we have at present very little besides the Government textbooks, and the most consulted books of the Bible. Our School started with what is called the Oriental system of braille. It is not akin to English except that it uses the

six-dot cell. The more practical thing is to have a system that uses the same signs as English where the same sounds occur. For sounds which differ from English sounds (and there are plenty) we must choose what is nearest to English, or if there is no resemblance at all, find some other bases for selection, such as frequency of use, and ease in reading.

But the problem is not even as simple as that. We are trying to have a system that will be usable by about six vernaculars. Each vernacular, while having many similar sounds, has certain peculiar sounds of its own. Thus those who use the different vernaculars must complete their own alphabet from the symbols which are left after the common sounds have been decided upon. To give you some idea of the complications that come when one tries to adapt English braille to Marathi, consider the following. The sound "s," two different "sh" sounds, and the sound "ksh," must have symbols. Obviously there are not corresponding English sounds to all of these. So we have to supplement. It looks at present as though we were going to have to use combinations of the three right-hand dots of the cell. This we hesitate to do, because of confusion in reading. Yet, there is a limit to the combinations one can make.

The system which seems nearest to completion and is almost ready for adoption, is called after its founder, Dr. Nilkanthrai. It is already in use in six or eight schools.

Changing to this new system of braille is going to be an involved task for our School. It means new books, which are perhaps the biggest burden since they require so much time and money. Our teachers will have to learn both systems, old and new, so as to be able to work with the old pupils, and yet teach the new. The Hindu school in this city uses this system, so we will doubtless be able to get our books copied off there. Yet there again is a difficulty. They use Gujerati, not Marathi. Thus the books are going to be very likely to contain errors, as those who write for us, though they understand Marathi, will be most familiar with writing Gujerati.

The School's resources are very limited. We get an educational grant from the Government and an educational grant from the Municipality. The Mission appropriates some, too, besides the superintendent's salary. Donations from the public have to be regularly sought. Accordingly, with us as with the whole world, the depression is a hard fact. But we hope for better years ahead, and enjoy our tasks of the present for their greatness.

FOUNDATION PUBLICATIONS

From Homer to Helen Keller. A Social and Educational Survey of the Blind, by Richard Slayton French, Ph. D., Principal of the California School for the Blind. Price: $2.25.

Touch Reading of the Blind. By Karl Bürklen, including Minor Articles on the Psychology of Blindness by Paul Grasemann, Ludwig Cohn and Wilhelm Steinberg. Translated by Frieda Kiefer Merry, Ph. D. Price: $2.00.

Proceedings of the World Conference on Work for the Blind. Price: $5.00. The following reprints from this book are available: *The Training of Teachers of the Blind,* Augusto Romagnoli (15 cents); *Psychological Problems of the Pre-school Blind Child,* Siegfried Altmann (25 cents); *Workshop Management,* George Danby (15 cents); *Blind Workshop Occupations,* S. W. Starling (25 cents); *Higher Education of the Blind and Their Chances in the Professions,* Carl Strehl (25 cents).

Special Education: The Handicapped and the Gifted. The Century Company. Price: $4.00. This book contains the Report of the Sub-committee on the Blind and Partially Seeing in the Public Schools, and is one of the White House Conference Publications.

DR. ALLEN SAYS:

THE SIGNIFICANCE OF OVERBROOK

"Hopefulness is a state of mind dependent on physical vitality." In 1890 our three pioneer schools for the blind were venerable institutions but city-bound, unattractive and certainly not bringing to bear upon their shut-in pupils all the needful environmental influences. The one in Philadelphia had just suffered a cruel public investigation, leaving behind it a low school morale. Its managers gradually saw the imperative need of getting bodily out from under; of a complete reconstruction in the suburbs. So in 1899 they built "Overbrook" and removed to it. There the whole physical environment was a thing of simple beauty, fresh and new and inviting to the soul. This was true not alone with the teachers who saw it through the eye but quite as surely with the taught who felt it as having been put there expressly for them. All participated in the social life, particularly dancing.

Once during a ten weeks' quarantine, no pupil going home then, what with added parties, competitive games and the like, the time passed quickly enough. Roller skating, bowling, swimming are commonly popular pastimes; but there the regular gymnasium work was so, too. Spring and fall the boys played modified football on the green; indulged most, however, in track events on their pioneer athletic field. They competed with public school teams in running, jumping and putting the shot, sometimes beating, sometimes being beaten. The experience developed no little sportsmanship, school spirit and loyalty. The academic work responded. The music flowered and finally fruited in some of the great oratorios of Mendelssohn and Haydn. The astonished public flocked to the "Overbrook Days," which were glorious, living, demonstrations not only of work and play but also of a risen morale. Graduation was begun. Alumni and alumnae associations were formed. A vigorous young alumnus earned his spurs as field officer by making a canvass of all past pupils, meanwhile fetching in new ones. The placement of graduates followed and increased. A hopeful expectancy prevailed. By 1907 about two-thirds of the Overbrook-trained pupils who had left had made good in the world. In brief, we became a real school and felt ourselves such. The *Century Magazine* featured us as illustrating a new basis of educating the young blind; that is, having them live in the present as we would fain have them live in the future.

Naturally our reputation spread. Fellow Superintendents kept coming, a few to criticize but most to praise. The latter were stirred to transform in like fashion their own institutions. First one then another did so until beneficent expansion became the rule. Few, if any, knew the fact that Overbrook exemplified the essentials of "Campbellism" transferred from England to America—personal and material environmental incentives to character and achievement built on physical health and vigor; on interest; conscious performance; demonstrations of capacities; the placement of graduates at other schools and at large; on supplanting public misapprehension by a saner belief in blind people; and with this, what is most needful of all, on a growing hopefulness pervading their cause.

It was my happy fortune to be the torchbearer of this comprehensive ideal into the new century which was ready and eager to receive it; and that of my successor to bear it in his own way ever onward. This, historically speaking, is the *Meaning of Overbrook.**

*For a fuller statement of this message see "The Reconstruction of Perkins Institution a Pressing Need," in the Perkins *Annual Report* for 1907.

AN APPRECIATION OF SIR FRANCIS CAMPBELL

Editor's Note: We are glad to publish the following letter from Alfred Hollins, Mus. D., F. R. C. O., whose account of his own debt to Sir Francis Campbell provides an interesting supplement to Dr. Allen's series of articles on Sir Francis and the Royal Normal College.

3 Grosvenor Street,
Edinburgh.

To the Editor,
The Teachers Forum,
New York.
Madam,

I have read what "Dr. Allen Says" of the late Sir Francis Campbell and the Royal Normal College with much interest and pleasure. There is, however, another, and I venture to say, a far greater part of his work of which I would like to speak.

His main object in founding the College was to train blind musicians so that they might be fitted to appear on the concert platform with their sighted brethren of the first rank. It required an almost superhuman persistence and an indomitable will to get his students successfully launched in life. These qualities Sir Francis possessed in a marked degree and laboured unceasingly to this end and to overcome the tremendous prejudice which existed, and still exists against the employment of blind musicians.

If I may be pardoned introducing the personal note and be not thought egotistical, I think a few events in my own career will best illustrate his remarkable conception and determination in this direction. In the first instance he intended that I should become a public pianist, so not only gave me every facility for lessons with Frits Hartvigson, the College Professor, but arranged for me to study in Berlin and Frankfort with Hans von Bülow.

Soon after the founding of the College Sir Francis enlisted the services and cooperation of Sir August Manns, the Conductor of the Crystal Palace Orchestra. He engaged an orchestra of 120 players with Manns as Conductor for a concert in the famous old St. James Hall, at which some of the College students took part; Hartvigson also played and Henschel sang. A similar concert was given the following year with Bülow as Conductor and Solo Pianist. At the third of the series I made my first appearance as pianist with orchestra, Manns conducting and Madame Albani being the singer. During the succeeding years Sir Francis secured many engagements for me, *e. g.,* Berlin Philharmonic, Klindworth conducting; the London Philharmonic under Svendsen; the "Saturday Pops" with Joachim and Piatti (Madame Schumann and Santley appeared at the same concert); the Boston Symphony Orchestra under Gericke; the Peabody Orchestra, Baltimore, under Hamerik; and the New York Philharmonic, under Theodore Thomas. I think it will be agreed that this was a wonderful achievement on the part of Sir Francis, for hitherto it was undreamt of that the leading musical organizations of the world, such as I have named, would engage a blind pianist to play a concerto with their orchestras. And this brings me to a point I would like to mention: There must be many gifted blind musicians who, given the opportunity, could make a name as public performers. The advent of Radio should afford a splendid field for them; but so far as this country is concerned, I can only call to mind two individuals who receive periodical engagements. Had Sir Francis been living he would undoubtedly have seen to it that this new opening was turned to the fullest advantage of his

students, and that they did their share of broadcasting. But notwithstanding the advance in education and the general condition of the Blind, they are still treated as a class apart. Sir Francis Campbell was a great pioneer and his work unique, though perhaps not so widely appreciated as it ought to be; but doubtless time will emphasise more fully the great debt we owe this far-seeing blind man, and I for one have the greatest pleasure in paying this sincere tribute to his memory.

Yours, etc.,

ALFRED HOLLINS,
Mus. D., F. R. C. O.

A SKETCH MAP FOR THE FOURTH GRADE

LUCIA ORR WOOLSTON

For the use of individual students in fourth grade history and geography, my pupils and I made maps of the United States on heavy cardboard twenty by twenty-four inches. On these maps the pupils can connect certain landmarks with a relatively small number of essential facts. Their use will develop ability to use these facts in the pursuit of further knowledge in geography and history.

Finding among young pupils a tendency to mentally picture the United States as occupying the whole of North America, we have indicated the boundaries of our country in a very definite way. Where natural boundaries are concerned, we use sandpaper for lakes, light cord for the rivers, and for the oceans a wave effect produced by pricking up the surface of the cardboard with the point of a stylus. The artificial boundaries between the United States and Canada, and the United States and Mexico are indicated by heavy-headed tacks, which appeal to us of the fourth grade as good substitutes for concrete posts.

These maps are highly colored; to those pupils with some vision the distinction between different parts of the maps is more striking, and the painted surface is more easily kept clean. (We notice and commend the bright coloring of the new wooden maps from Kentucky.) The land surface of the United States is green, Canada red, Mexico yellow, and lakes, rivers and oceans are blue. A number of important cities, some selected on account of historical importance in our country's development, are represented by brass-headed tacks; others are centers of commercial and industrial strength and show the resources of the different parts of our country.

Many maps for the seeing impress one as having too much detail, so in these maps we have limited ourselves to such features as are clearly within the requirements of the fourth grade. Certain rivers, lakes and mountains are outstanding in their connection with the growth of our country. Since geographical conditions in a general way control history, rivers became highways, mountains sometimes became defenses and sometimes barriers to be surmounted. Events and places can be located with reference to these physical factors more accurately than in any other way.

These maps are easily accessible, as they are ranged along the wall on a four-inch molding with a groove in the top which holds the map in a slanted position. Suspended from the molding under each map is a six-inch Rand McNally globe with the continents in clay relief. The relief work has been painted and the globes varnished. Like the maps, they are practicable, durable and easily kept clean.

The keen interest which these boys take in making the maps, and their pleasure and zeal in their use is very gratifying to the teacher. One of the questions recently asked in a language examination was what they like best in the schoolroom. One little boy wrote: "Best of all I like the *mapes* and *globs*."

BOY SCOUT TROOP NO. 22 AT THE NORTH CAROLINA SCHOOL FOR THE BLIND

H. C. Griffin

Seven years ago there developed a desire among the boys at the State School for the Blind, at Raleigh, North Carolina, to organize a Boy Scout troop. This desire was created through Jack Lineberry, who was a member of a troop in the City. Jack talked the matter over with the Scout executive, and in January, 1926, we organized with fourteen members. I, as principal of the school, was selected Scoutmaster, and Jack Lineberry, assistant Scoutmaster. Jack knew Scout work, and, since his father was superintendent of the school, he knew the boys and was in a position to know what they could do. Our boys were soon passing tests and doing the work as well as the other Scouts of the City and State. This was astonishing to the seeing boys, and they came over to see how it was done.

When the first Scout Swimming Meet was held and our troop won by a large margin over the other troops of the City and County, it began to dawn upon the other Scouts that we had a real troop here. Today our troop consists of thirty members, with four patrols.

Our troop was asked to give a demonstration of the work which seeing boys thought was impossible for the blind. This our boys gladly did at a meeting of the Court of Honor. Instead of the show-window test as a substitute for tracking, we used three tables with fifteen articles on each. Each boy described what he saw on one of the tables, this table being selected by someone from the audience. The test on stars is passed by sticking thumb-tacks through paper stars and placing them on beaverboard. The Scout taking this test places these stars in the form of the constellations, and they are described fully by him before he is allowed to pass the test.

A Scout passing a test on birds must name and give a full description of the different birds as he hears them singing. The study of birds has created a great interest among our entire student body. They know them and enjoy their songs very much.

One of our leading agriculture papers offered prizes for the best essay written on birds, with no idea of a blind student entering the contest. Our students heard of this and decided to enter the contest, which resulted in one of our Boy Scouts winning first prize. Most of the boy's success was due to the training in our Scout organization.

Our boys do the necessary fire-building and cooking to pass all required tests. They find great pleasure in being taught these activities out in the woods. About once each month our troop goes into the woods, where we cook our supper. There we tell jokes, stories, riddles, and play games. We have a quartet composed of a violin, harmonica, guitar, and ukelele, and by singing we can always find plenty to entertain us during these trips. Once each year we spend a week-end at the Boy Scout Camp, which is about ten miles from our school.

The great plan and rules governing the Scout movement are flexible enough to meet the needs of all people, and any organization that does not carry this principle is not well founded. When our Scouts are barred by glass so that they cannot see the articles in a show window in order to describe them and pass that test, it is just as satisfactory to put the articles on tables, so that they can see them through their fingers and describe them as readily as anyone.

Those who know the Scout Oath, the Laws, and other factors which govern and control the conduct of a real Scout can realize some of the values of Scouting. In true Scouting there is nothing to injure or harm, but everything to help and give to the boys the best things in life. It also develops na-

tive talent. One of our Scouts doing woodwork to pass certain tests began to discover that he had some ability in wood-carving. Visitors have been so much impressed by seeing the work which he has been able to do that they have ordered wood-carved articles from him. His work can now be seen in several states.

The great trouble with any age or people is action without thought. The principle of Scout work is helping our boys to act after serious thought, rather than follow the first impulse or the example of some careless, thoughtless person. When a boy wanders around in the fields and forests studying flowers, trees, birds, and the other products of God's creation, he begins to realize more fully the great plan of life, and he has a keener sense of his own place in the world.

Everyone connected with our Institution realizes that there are great benefits derived from the Scout organization here.

PUPPET SHOWS

M. Blye Allan

Sleeping Beauty and her Prince, Rip Van Winkle and the Dwarfs, Little Black Sambo and the Four Terrible Tigers, have really become friends and neighbors with us, here at the Kentucky School for the Blind, through the medium of the Puppet Show. And what fun we have had giving our shows!

Our Puppet Club, organized in October, 1930, has grown steadily in numbers and interest. The previous summer the Junior League of Louisville presented a course in "Puppet-making and Production of Plays," under the able direction of Mrs. Sevier Bonnie. The writer attended the class, and in the fall introduced the work in our School.

Last year we made the puppets with plastic-wood heads. The members of the club modeled the heads of clay over small electric light bulbs. From these were made the plaster casts and when they were finished, the plastic wood was molded carefully into these casts. These hollow heads with their exaggerated features were then ready for their paint. The flat coat was put on by totally blind girls, but the features had to be painted by girls with some sight. The work was crude but as a whole the result was quite effective.

The dressing of the puppets called forth much thought, discussion and originality. What color hair would be best for Sleeping Beauty? Should Rip Van Winkle have white hair after his twenty years of sleep? What could we use for a spinning wheel? And many other such important questions had to be settled.

After the characters were finished, the children had to learn to manipulate the puppets quickly and easily. With the forefinger in the head control, thumb and second finger thrust through sleeves and into tiny hands, the operators were soon working their individual puppets very cleverly—nodding and turning their heads, waving and clapping their hands, and making them prance about the stage.

The girls made the patterns for heads and animals of heavy paper. These patterns were pinned on unbleached domestic cloth and cut. After basting carefully, these were sewed together on the machine and turned. The totally blind girls did the basting, turning and stuffing, and several who had had instruction in the use of the machine, sewed the figures. Some of the totally blind girls were able to make the clothes for their own puppets, and glue or sew on hair.

When the question of a stage arose, we turned to our teacher of woodwork. Mr. Lutz produced a very pretty stage equipped with cunning footlights, which the players operate themselves. The girls made the draw curtains and created the scenery. Some of these back drops are done in crayon, others in water-color.

As to the plays selected, *Sleeping Beauty* and *Little Black Sambo* were taken from *Puppet Shows for Home and School* by

Maude Owens Walters; while *Rip Van Winkle* was an original dramatization. Of course, our cast had to memorize their parts —some taking as many as three rôles. The plays are read and the children do their own choosing, and as far as possible, decide which characters each shall portray.

Although the club has presented just two plays, the members are already talking and planning about what plays they will present next. The totally blind members are quite as enthusiastic as the others. For instance, in *Sleeping Beauty,* the Prince and the Old Man whom he met in the forest, were both manipulated by blind girls who gave one scene by themselves and did so very creditably.

The two plays presented before the public last March were received with much enjoyment and applause from an appreciative audience. We feel well repaid for our efforts—I do not say "trouble," for the children have enjoyed every minute of the necessary preparation.

GENERAL SCIENCE COMMITTEE

At a meeting of the Committee on General Science Curriculum which was held at the New York Institute for the Blind on June 28, a program of procedure for the coming year was definitely decided upon.

Interviews were held with representatives of a number of our schools with the result that Mr. J. H. Botts, Principal Teacher at the St. Louis School, Mr. Edwin Chambers at Overbrook, Mr. Raymond E. Reasor at Hartford and Miss Grace Koehne at Indianapolis have agreed to cooperate with the committee by giving the Outline of the General Science Course a trial during the school year beginning September, 1932. The final Outline of the course will be available for general use in September, 1933.

The Committee adopted as a braille text, *Introduction to Science,* by Caldwell and Curtis.

CHESTER A. GIBSON, *Chairman.*

MUSIC AT OVERBROOK

Music, the only fine art with the exception of Letters in which the sightless can give full expression to their creative and interpretative powers, has been given a wide field of activity during the current school year at Overbrook, under the direction of Ralph P. Lewars, A. M.

Dr. O. H. Burritt, the Principal, heartily agrees with Mr. Lewars that no course in the school is of greater importance and of more lasting value than the study of music, from a cultural as well as from a vocational or professional point of view.

In order that the influence of the art might be felt throughout the entire school, great stress has been laid on *a cappella* choral work of the Special Mixed Chorus for boys and girls and the work of the Girls and the Boys Glee Clubs. These organizations have given separately or jointly twenty-four public performances aside from six radio broadcastings. Among the choral works presented, the most important are the following:

Motet for double chorus, "Adoramus Te" —Palestrina; Christmas Carols: "The Little Door"—Old English, "O Bethlehem"—Traditional Basque, "Sleep, Holy Babe"—H. A. Matthews; Oratorio, "There Shall a Star from Jacob Come Forth" (Christus) —Mendelssohn; Chorale, "God My King" —Bach; Cantata, "All They from Saba Shall Come"—Bach; Oratorio, "The Heavens Are Telling" (Creation)—Haydn; "Lullaby"—Brahms; "Morning"—Speakes; "A Song of Liberty"—Beach; Psalm 150—César Franck; "O Praise the Name of the Lord"—Gretchaninoff.

Concert numbers for piano or organ solo were chosen from the works of Bach and his forerunners, Beethoven, Chopin, Mendelssohn, Liszt, Debussy, Prokofieff, Tschaikowsky and César Franck. Three of the outstanding instrumental numbers were the piano concerto—"Capriccio Brilliante" by Mendelssohn, the piano "Concerto in B Flat Minor" by Tschaikowsky and the "Organ Fantasie" and "Fugue in G Minor" by Bach.

GIRL RESERVE GROUPS AT THE WASHINGTON STATE SCHOOL FOR THE BLIND

MARGIT TANNER SMITH

A Girl Reserve group, consisting of twenty-one members, was organized in October, 1929, in Vancouver at the Washington School for the Blind. The purposes were: to create a means of wholesome, recreational, educational and social activity, and to increase contacts with "outside" girls of the same age. The latter, we felt, was particularly important since most of the girls in the institution are from out of town and their contacts with seeing people, among whom they will eventually have to live, are very limited.

The second objective is perhaps the hardest to accomplish. We planned to have joint meetings with the groups from the High and the Junior High School pupils of Vancouver, and though at first it was somewhat difficult to get the active cooperation of all girls concerned, eventually the plan worked quite successfully. One of the best functions was a joint "Mother and Daughter" banquet in the Y. W. C. A. rooms, the teachers and officers of the school attending as the mothers of the girls here. Throughout the year less informal "get-togethers" were arranged.

Due to the closing of the Y. W. C. A. office in Vancouver the following year, our group became affiliated with the Portland organization, which makes personal contacts somewhat harder to arrange. However, last winter about one thousand Girl Reserves from Portland and vicinity staged an elaborate extravaganza and the Girl Reserves from this school, en masse, sang the Gypsy choruses with creditable repute for their school.

This year our group was represented at the conference for northern Oregon and southern Washington held at Salem, Oregon. Two years ago when the conference was held in Vancouver, the girls of this school were to have been hostesses at an "open-house" for all the delegates; but much to our regret, this did not materialize as there was an outbreak of influenza in the town and it was thought best not to expose the school to such a danger. Naturally then, it was with much enthusiasm we sent our first two delegates to the Salem Conference. The girls made many friends and plans are already started for joint meetings and social functions with Portland groups.

The greater part of our activity is, of course, within the school. There is a meeting every week which may take the form of a party, picnic, study group, committee meeting, or general meeting. One year the group divided itself into what were termed "Special Interest Groups." Some reported at each meeting from their studies on etiquette; another small group made a dress for a needy little girl; another studied gardening and planted a flower garden. The fourth group, which was by far the largest, worked up a play, *The Stars,* based on a Serbian folktale. This gave them an opportunity to study the customs, lives, costumes and music of that country and maintained a very active interest in the group.

One of the things which we find the girls are particularly interested in is etiquette. More than to any seeing girl is this a vital problem, for a seeing girl can, by imitating what she sees others do, adapt herself to almost any ordinary situation in which she is placed. A blind person must learn by intensive study and practice the detailed particulars, and so this year we have tried to emphasize "Good Manners for All Occasions" in our projects. The girls are much more interested and alert when they know that there is something definite to plan and study for and by heightening the situations into more formal affairs than usual, they make more conscious efforts. Several weeks are spent in discussions and general study

and then the girls plan a function which will emphasize many of the things that they have been studying. This fall they gave a tea in the private apartments of our Superintendent, Mrs. Chapman, to which were invited members of the Executive Board of the Portland Y. W. C. A., the Girls' League officers of Vancouver High School, the Inter-club Council of Portland District Girl Reserves and the officers and teachers from the school. The girls wrote the invitations, arranged the decorations, program, refreshments and all of the other details, even to telephoning the society editor of the Vancouver Columbian. It was a happy event and one which the girls greatly enjoyed and look back to with some justifiable pride.

Because the organization had by this year grown too large for one adviser to keep all the members actively interested, it was decided the junior girls should form a group of their own which would have its own projects, besides meeting jointly with the older group when there were social functions, lectures or anything which would be of interest to all the girls. In fact, at the general meetings which are held regularly once every four weeks, both groups meet unless other projects interfere. We feel by dividing this way into two groups, there are more activities and responsibilities for each individual girl.

The Junior group was very busy this winter preparing a play, *The Lost Locket,* in which some of the Boy Scouts also took part, for the Bicentennial program given by the school on Washington's Birthday. Lovely costumes of early colonial style were worn and the serious efforts on the part of the directors and the children made the play truly successful.

The Juniors' activities have also been more remunerative than the Seniors. Every noon they sell candy in the lobby of the administration building and hope to be able to buy Girl Reserve rings for each one of their members. The Senior girls are making plans for a basket-social to raise money for the same purpose.

One of the biggest events for the Senior group was their Christmas party which took the form of a dinner-dance to which the older boys of the school were invited. This gave each girl an opportunity to do something in planning and carrying out plans, with decorations, menus, dance programs, invitations and music to arrange. Much attention to "manners" was of course created and because of the vital interest of the time, such information was undoubtedly more heeded than if the same information had been given in ever so many "talks."

But perhaps the happiest occasion of all the year and the one the girls look forward to with eagerness as soon as they come back in the fall, is the week-end camping trip in the spring at Rock Creek Camp made possible through the interest and kindness of the Portland Y. W. C. A. It is an ideal place to go. There are ample, comfortable sleeping quarters, a roomy recreation room with fireplace and piano; the loveliest places to go for hikes, up hills and down dales; a hurrying little river which breaks upon the ears as soon as one awakens in the morning and even a tree-house to explore. Indeed, the two-day outing at Rock Creek is the happiest culmination to a busy, happy year.

Have you seen the "Mystery Gardens" which are appearing in so many public school classrooms? With almost no expense and little effort spectacular results are achieved which can be appreciated by children with even a small amount of vision. The following directions were given us by a teacher in a Detroit Class for the Blind:

Put one piece of coke into a small dish. Over this coke pour a mixture the approximate proportions of which are as follows:

Two tablespoonfuls of blueing
One tablespoonful of table salt
Two tablespoonfuls of water

These ingredients may be varied somewhat to bring different results. One tablespoonful of water should be added every day.

THE TEACHERS FORUM
for
Instructors of Blind Children

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The Editors will not be responsible for opinions expressed in signed articles

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THE FORUM EDITORS

Although she has ceased to be the Supervisor of Educational Research on the staff of the American Foundation for the Blind and has become, with the beginning of this month, the Director of Personnel and Research at Perkins Institution and Massachusetts School for the Blind, the Editor of *The Teachers Forum,* nevertheless, is to continue her editorial duties for another year. In this capacity she is serving under the auspices of the Foundation as usual.

The Teachers Forum is adding to its staff an Associate Editor, Mr. Eber L. Palmer, who is assistant to the Executive Director of the Foundation, and who is the educator-son of the Superintendent of the Iowa School for the Blind. Coming to the Foundation from the superintendency of the Vinton, Iowa, Public Schools, Mr. Palmer has succeeded in making a place for himself in the esteem of such educators of the blind as have come in contact with him during the space of the one year he has been on the Foundation staff.

Between them, the Editors hope to carry *The Forum* along the even tenor of its way in spite of such difficulties as may arise because of the distance between the two editorial offices. Manuscripts, and correspondence pertaining thereto, are to be sent to the Editor in care of Perkins Institution, Watertown, Massachusetts. Letters regarding subscriptions, renewals, extra copies, etc., are to be addressed to the Associate Editor in care of the Foundation.

Attention is called to the newly arranged editorial block at the top of this article.

THE EDITOR.

A. A. I. B.—1932

The Biennial Convention of the American Association of Instructors of the Blind which was held at the New York Institute for the Education of the Blind this last June had the high registration of three hundred and seven delegates and visitors. This large attendance was partly due to the attraction offered by the centennial celebration of the three pioneer schools—Perkins Institution and Massachusetts School for the Blind, Pennsylvania Institution for the Instruction of the Blind, and the New York Institute itself. The centennial day was a great success.

The remaining time of the Convention was well divided between work and play. On Wednesday, the main sessions and the section meetings proved to be of unusual interest not only to superintendents and principals but also to classroom teachers. The one defect in the program was that too many interesting section meetings came at the same time.

Thursday afternoon and evening were devoted to sight-seeing trips which had been planned with great care.

From all those who had the privilege of attending this Convention grateful thanks are due to the hosts, Mr. and Mrs. Edward M. Van Cleve and the teachers of the New York Institute, and to the officers and the program committee of the American Association of Instructors of the Blind for a most enjoyable and profitable five days.

DR. MERRY AND THE DEPARTMENT OF SPECIAL STUDIES

In the fall of 1927 there was established at Perkins Institution an experimental primary school, called the Department of Special Studies, which was the joint project of the American Foundation for the Blind, Inc., and Perkins Institution and Massachusetts School for the Blind, and for which Perkins gave the use of its Lower School. The two organizations had a double purpose in inaugurating this Department. First, it was felt that such a Department was needed for the purpose of testing experimentally those special methods and techniques in the education of visually handicapped children which seem to call for prolonged and careful study. Second, it was hoped that as time went on this experimental school might also function as a demonstration school for educators of the blind and for teachers in the general field of education who are interested in the special problems of the physically handicapped.

Although unpredictable circumstances have terminated the existence of the Department of Special Studies as a joint project of Perkins Institution and of the Foundation, it has not only justified its brief career but has gone far toward raising the standard of primary education for the blind in this country and has acted as an incentive toward experimental work in other schools for the blind.

The success of this five-year venture by the Foundation and Perkins is due largely to the indefatigable and constructive work of the Supervisor of the Department, Dr. Frieda Kiefer Merry, and to the ready spirit of cooperation evidenced by the teachers. Mrs. Merry's quick mind found out those problems which called for attention not only for the interest of the children in her own Department, but for the welfare of blind primary children throughout the country.

Although it is impossible to review here everything which has been achieved by Mrs. Merry and the teachers during the last five years, some of the more outstanding contributions from the point of view of the special techniques required in educating blind children are:

(1) A group of studies on the value of teaching contractions to beginners in braille reading.

(2) Experiments in the use of embossed pictures in the instruction of blind children.

(3) The motivation of primary braille reading.

(4) Experimental studies in the teaching of braille writing to beginners by means of braille typewriters.

(5) Testing of methods for developing in institutionally trained blind children ethical judgments regarding problems in citizenship.

(6) Studies of the methods and techniques for teaching arithmetic to blind children.

When one realizes the difficulties of experimental work in any school for the blind, where wide ranges of mentality, of chronological ages and of degrees of vision must be dealt with in each grade, and where so many additional handicaps are likely to further reduce the number of pupils available for experimentation, Dr. Merry's accomplishments stand out as a most valuable contribution toward the advancement of the education of the blind.

Although Dr. Merry has left Perkins, and the Department of Special Studies no longer exists, the good which has been accomplished cannot be lost.

It is the intention of Perkins to turn the whole Institution into an experimental and demonstration school, although everyone connected with the project realizes that development along these lines must be slow and possibly painful.

A uniform modified system of braille grade two for the blind of all English-speaking countries became a certainty when the British and the American Type Committees arrived at satisfactory conclusions in London in July. These conclusions should eliminate much confusion and effect a saving in printing cost by avoiding duplication.

Books put into braille for the convenience of the Department of Special Studies may be obtained at a very reasonable price from the Howe Memorial Press, Perkins Institution, Watertown, Massachusetts. They are in braille grade one and a half and include these recently embossed titles:

Minot, J. C.
Best Animal Stories I Know
W. A. Wilde Co., Boston, Mass.
Field, W. T.
Field Third Reader
Ginn & Co., Boston, Mass.
Martin, Dahris B.
Awisha's Carpet
Doubleday, Doran & Co., New York
Pyle, Katherine
Black-eyed Puppy
E. P. Dutton & Co., New York
Hillyer, V. M.
A Child's Geography of the World
Century Co., New York
Patch, Edith M.
First Lessons in Nature Study
Holiday Pond
Macmillan Co., New York
Brann, Esther
Nanette of the Wooden Shoes
Macmillan Co., New York
Hulbert, Winifred
Cease Firing!
Macmillan Co., New York

Excerpt from a letter from Miss Nellie G. McIntyre of the Pennsylvania Institution for the Instruction of the Blind, Overbrook, Pennsylvania, in regard to *The Directory of Activities for the Blind in the United States and Canada,* published by the Foundation:

"Perhaps you may be interested to know that we are embossing lists of Welfare Agencies for the Blind taken from the Directory compiled by Miss Rand. These lists cover the states of Massachusetts, New York, Rhode Island and New Hampshire; the states from which our 1933 class of the Home Teacher Training Class come. We will probably add as soon as we have the opportunity New Jersey, Louisiana, and Minnesota for the benefit of other members who have been in the group.

"We are embossing them on brass in order that home teachers already on the field may have one or more if sufficiently interested. We do not plan to send plates of the above-mentioned lists elsewhere."

The six members of the 1933 class of home-teachers-in-training completed in June the first year's work of the course at Overbrook. The second year will be taken at the Pennsylvania School of Social and Health Work, 311 South Juniper Street, Philadelphia. No new class will be organized this year. If the demand for trained home teachers continues, a new class will be organized in September, 1933.

Our Contributors

Dr. R. S. French, head of the California School for the Blind and Assistant Professor of Education at the University of California, is the author of the new book *From Homer to Helen Keller.*

Mrs. Margaret Owen Thomas, now in charge of the American Marathi Mission School for the Blind in India, was formerly psychological examiner at Perkins Institution.

Mrs. Helen Orr Woolston, wife of the Superintendent of the Illinois School for the Blind, is the teacher of an interesting fourth-grade group of children.

Mr. H. C. Griffin is principal at the North Carolina School for the Blind, where he has an unusually active and successful Boy Scout troop.

Miss M. Blye Allan, of the Kentucky School for the Blind, succeeds in finding many new ways to stimulate the thinking of her pupils.

Miss Margit Tanner Smith, of the Washington State School for the Blind, brings the first news we have had so far regarding Girl Reserve troops in schools for the blind.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. V NOVEMBER, 1932 No. 2

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THE BOY SCOUT PROGRAM AND ITS CONTRIBUTION TO THE BLIND

James E. West

The Scout Program has a real contribution to make to blind boys. This fact has been demonstrated by the many Troops that have been organized in connection with institutions for the blind since the Movement was first developed in this country twenty-two years ago. There are at present on our records fifteen active Troops carrying on in such institutions. This does not, of course, take into account the percentage of blind boys who are members of regular Scout Troops.

I was asked on one occasion if I felt that the Scout Program, which is based on an active outdoor life and which takes boys into the open for camping, hiking, swimming and other activities, could be of practical value to boys who cannot move about easily in the open and to whom many of the activities included in the Scout Program would be impossible. My reply was that the Scout Program is so rich and varied that there is something in it for every boy, no matter what his physical handicap, and that if seeing boys derive benefit from Scouting, it is my belief that blind boys, to an even greater extent, are in need of just what Scouting has to offer them. The fundamental objectives of the Scout Program, including all its activities, even our Merit Badge program, are character building and citizenship training. Scouting puts boys into positions of responsibility where their self-reliance, initiative and independence are developed. In helping handicapped boys to develop these qualities, the Scout Program has had a wonderful psychological effect.

In order to make it possible for such boys to receive as much benefit from the Program as possible, a special classification has been developed for them. They are known as Achievement Scouts. Those of us who are working in Scouting are charged with the responsibility of very definitely maintaining the standards of our Scout requirements. There are certain definite requirements that a boy must meet before he may become a registered member of a Scout Troop. Certain other requirements are necessary before he can advance to Second Class Rank, and still others before he can be a First Class Scout. Some of these requirements include the use of knife and hatchet, fire-building, cooking, first aid, bird study, map making, nature study and a knowledge of the stars. The entire Merit Badge field, including some one hundred subjects, is open to Scouts who have met these requirements.

In order to make it possible for boys who are physically unable to meet all these requirements to qualify for advancement and secure the benefits of the Merit Badge program and to serve as an incentive to them to make progress, the Achievement Scout classification has been developed. All boys meet the Tenderfoot requirements, which include a knowledge of the Scout Oath and Law, the history of The Flag of the United States of America and the ability to tie certain specified knots. Each boy then meets all of the Second Class requirements of which he is capable. He may substitute for those which he cannot meet something within his capacity which he feels is a test as difficult for him as the other would be for the normal boy. We have purposely avoided specifying any substitute tests. This is left entirely to the Scout's own conscience and is a real test of his initiative and resourcefulness. The Achievement Scout is then awarded his Achievement Badge and Certificate No. 1. He then qualifies on the same basis for the First Class Scout requirements.

We have in Scouting what is known as the Merit Badge scheme of pre-vocational guidance or exploration, which enables a boy to find out what he can do most happily and most skilfully so that he may work along those lines. Associated with our Local Scout Councils are men who are experts in their communities in the different activities presented in the Merit Badge program. The services of these men in many cases would be beyond price, and it is indeed heartening to have them placed at the disposal of the boyhood of the nation through the Scout Movement. Their guidance and encouragement have been a wonderful help to boys and it has frequently happened that unsuspected talents have been developed as a result of a boy's interest in some Merit Badge subject.

Another splendid thing that Scouting does for blind boys is to give them a sense of brotherhood with other boys. The boys carry on the same program as other Troops, and in connection with Local Council camps, rallies and other activities in which all the Troops of the Council participate, they have taken part with the rest of the Troops of the Council and have conducted themselves with great credit. This has proved a strong incentive.

I feel that the service ideals of Scouting have an especial appeal for boys who, because of conditions, may have a tendency to look to others for help rather than render service themselves. Every Scout does a Good Turn daily and the activities of the Scout Program are designed to make the Scout-trained boy and man an asset to the community. He knows first aid, for instance, so that in the event of an emergency he is prepared. Some of the most efficient bandaging that I have seen was done by a Patrol of blind Scouts at a Council demonstration.

But more important still is the attitude of mind. In Scouting we believe that the attitude of mind is an important element affecting conduct. We believe that a general cultural education and the experience which a boy has as a member of a Patrol and Troop in group activities under properly trained leadership, as well as the high ideals as developed in seeking to live by the Scout Oath and Law and the "Good Turn" requirement, definitely contribute to giving the boy right attitudes.

Attention is invited to the fact that the boy becomes a Scout voluntarily and he remains a Scout because he wants to. His attitude is that of playing a game and he, as a matter of course, accepts the rules of the game. The fundamental responsibility of the Boy Scouts of America as an organization in all of its relationships is, therefore, to create and maintain conditions so that the boy intensely desires to be a Scout. Because of this fundamental factor we find in Scouting that boys in large numbers accept the ideals of Scouting as contained in its Scout Oath and Law without argument, without preachment; simply as a matter of course because it is expected of them as a part of the rules of the game.

We further believe that his experience as a Scout in doing the things which the Program of Scouting inspires and stimulates, definitely forms desirable habits of conduct which reflect a wholesome attitude toward life and toward the community, as well as a respect for others. When these acts and attitudes are "worked at," they result in habits of conduct, moral fibre, character, and a degree of self-control which insure a better prepared citizenship—men of character, trained for the responsibilities of citizenship.

Starting with this issue the braille edition of the Teachers Forum will begin the use of all contractions of Standard English Braille Grade Two as agreed upon by the British and American uniform type committees at their joint meeting in London last summer.

STANDARD ENGLISH BRAILLE GRADE TWO

Robert B. Irwin

Teachers in schools for the blind have taken much interest in past discussions of braille grade two. The older pupils in many of the schools have been using grade two both for reading and writing. In the Kansas School for the Blind, every pupil in the junior high or above has for several years been required to learn grade two. I have had the privilege of visiting some of the schools during the past year, and I was much interested to note the enthusiasm of the older pupils for the more highly contracted form of braille.

Last spring Superintendent Wilson of the Kansas School for the Blind sent a questionnaire to the various schools for the blind in the United States. The results obtained showed over two-thirds of the teachers in favor of teaching grade two to school pupils, preferably in the sixth, seventh, eighth, or ninth grades. Of forty-five schools reported, thirty-one were unanimously in favor of braille grade two in the school, nine opposed, and five divided in their opinion.

For some time the American Foundation for the Blind has been conducting negotiations with the British Uniform Type authorities looking toward international agreement upon certain minor modifications in the grade two system. In June of this year the A. A. I. B. and the A. A. W. B. joined with the Foundation in sending a committee of three representatives to London to conclude a definite agreement with the British upon a new set of rules for writing grade two. This conference was held in London in July and complete agreement was reached regarding a standard code to be known as *Standard English Braille Grade Two.*

This code makes possible the interchange of books and stereotyped plates between British and American printing houses for the adult blind, and will put an end to the wasteful duplication of editions of the same books in the two countries. It will broaden the market for all books embossed in the English language, thus reducing the unit cost. In short, it will make available, yearly, thousands of dollars which may be expended on additional new titles.

For those interested in the technical details of the settlement it should be said that:

1. A few of the least-used signs and abbreviations in grade two have been dropped;

2. The capital sign heretofore peculiar to braille grade one and a half will henceforth be used by the British when capitalization is observed; also the grade one and a half sign for *degree* and *per cent* and the sign denoting italics were adopted;

3. The special abbreviation sign heretofore used by the British has been dropped in favor of the period;

4. Five new abbreviated words (*across, letter, necessary, quick, together*) recurring with high frequency in the English language, have been added to the code;

5. Roman numerals will be written as in ink type.

It had been previously announced that the British Uniform Type Committee had agreed to drop certain double letter signs. During the conference discussion, however, it was deemed advisable to restore these signs in order to secure complete agreement upon other points. In the future much more attention will be given to syllable divisions in the use of contractions than heretofore; that is, word signs will not be used as part-word signs where their use would tend to obscure pronunciation or recognition. The American Committee at the Conference consisted of George F. Meyer, Supervisor of Braille and Sight-saving Classes in the Minneapolis Public Schools (representing

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WAYS AND MEANS OF TEACHING GEOMETRY TO BLIND STUDENTS

A. D. Hurst

PART I

There seems to be a pretty wide-spread conception among the public, and to some extent among people holding important positions in educational work, that blind people are unable to do more than a limited amount of mathematics; perhaps short additions, subtractions, multiplications, and divisions. Evidence of this belief is shown by the fact that many visitors at our school seem almost astonished when they learn that we teach algebra and geometry. Perhaps the reason for the above notion lies in the fact that most people seldom think of working a mathematics problem except with the aid of paper and pencil. It is, however, entirely possible and practicable to multiply and divide large numbers, to analyze long algebraic word problems, and to solve quadratic equations without the use of writing material. Problems belonging to the above groups are often solved by the blind, without writing equipment, as quickly and as accurately as by the seeing, working in their customary way.

Blind students may also study the usual high school course in geometry and gain as much from it as may any other group. Such things as the congruence of two figures, equality of angles, lines and circles, and the measure of angles, ratio, proportion and area, may be made just as real to those without vision as they are to the seeing. The blind are also able to draw their own geometric figures as accurately and almost as quickly as seeing students.

In fact, let it be understood at the beginning of this paper that the amount of sight a student may have has nothing to do with whether or not he or she studies geometry at our school. Frankly, after six years of experience as a teacher of high school mathematics, two years in the public schools and four years at the North Carolina School for the Blind, I am ready to believe that blind boys and girls can do all of high school and college mathematics—and perhaps more. They of course cannot make surveys with a transit, draw maps to a delicate scale, or carry out other similar activities, but it is not the *mathematics* of the situation that prevents them.

The first section of this paper will discuss how the regular demonstrative propositions are taught at our school. The second section, which will appear in a later issue, will describe how the totally blind students are able to accurately draw the regular geometric figures for the construction problems. Ordinarily a distinction is not made in the two types of work, but in our school such a separation seems best. The main reason for dividing our work in this way is the fact that our students have a complete set of geometric figures cut from upson board to match the propositions in their text. (How these figures were made and are used will be explained later.)

Since we use these figures daily, it is not necessary for the students to draw anything except for propositions relating to construction problems. There are enough of these problems to thoroughly familiarize the students with the use of drawing instruments and to teach them how to draw almost any geometric figure likely to come to their attention. Our students usually spend six to eight weeks on this part of their work. Evidence that two months is long enough to spend in drawing figures is suggested by the fact that when one of our students in college was called on to draw a map for geography, she was able to hand in a satisfactory drawing. The same student also made an "A" in her mathematics this year.

Soon after I began teaching geometry to the blind, I discovered that they were not getting the proper understanding of the subject. They could repeat the definitions given in the book, but when given geometric figures cut from cardboard or wood and asked to illustrate that which they were explaining, many of them seemed lost. Specific evidence of these misunderstandings may be illustrated by the fact that many of the students have the wrong conception of the following fundamentals of geometry:

1. Equality of Angles—The students could quote the definitions they had read, but often, when given two equal angles in cardboard or wood, perhaps half of the class did not know how to show the equality. Especially was this true if the sides forming the equal angles were unequal in length. Students frequently think that two angles are equal if the sides forming these angles are equal in length.

2. Complementary and Supplementary Angles—Again the students memorized the definitions, but when given two complementary angles and asked to show that they were complementary, the majority of the class were unable to do so. It is wise to have several sets of angles of different sizes, for if two 45 degree angles are used, some of the students almost invariably think that a 75 degree angle and a 15 degree angle are not complementary. The same is of course true with the supplementary angles.

3. Perpendiculars—When questioned on this subject, about half of each class said that one line is perpendicular to another when right angles are formed. My next question was: "When are right angles formed?" The usual reply was that right angles are formed when one line is perpendicular to another. Both answers are in one sense correct, but if the two are put together, they form a vicious circle with the student incapable of further explanation.

4. "One line and only one may be drawn between two given points"—This statement is of course recognized as one of the postulates. It often takes on an entirely different meaning, however, if the students are asked to select two points on a board and drive a small nail or tack to hold each point and then see how many strings they can draw from one point to the other without the strings touching.

Other examples of the wrong conception of the very fundamentals of geometry might be cited, but these four should suffice to show that the students were not getting the most benefit from their course. But why were these and other similar things not being understood? They had been explained verbally two or three different ways. Later experiments seemed to prove that the main reason for these wrong conceptions rested in the fact that the figures in the text were not sufficiently tangible. This was no fault of the embossers.

The students needed triangles of different sizes and shapes cut from wood or other material so that they could handle them, turn them about, carry them from place to place, and observe them from every point of view. This condition would give real laboratory work for the postulate which says that "any figure may be moved from one place to another without altering its size or shape." Such a condition would also afford a better opportunity for blind students to become familiar with the figures they were to study throughout the year.

Circles and lines that could be handled in the same manner were also needed. The best object so far used to represent a line is a piece of soft wire, preferably solder in the form of wire. This is easy to bend and the students can easily make angles of various sizes. This may also be used to good advantage when studying the equality of angles.

Since the geometric figures to match the propositions of our text could not be bought, it was necessary to make them in our carpenter shop. Upson board—often called beaver board—was selected for this work.

This material is light in weight, will not split, and is easily worked. It may be bought at any store where interior finishing materials are sold, and usually sells for three to four cents per square foot. It is sold in strips about four by six feet.

A geometric figure was cut out for each proposition in Wentworth-Smith's *Plane Geometry,* with the exception of possibly eight or ten of the most simple ones. Figures were of course not made for the construction problems, as their solution depends on drawing certain lines, angles and arcs. (How blind pupils are able to make these drawings will be explained in the second section of this paper.) After the figures were sawed out, their edges were sandpapered to give them a better appearance. In order to keep the figures more sanitary, as well as to make them more lasting, they were given a coat of shellac. Braille letters to take the place of the letters in the book were also cut out and pasted on the figures at the desired places while the shellac was soft. Within two or three days they were dry and ready for use.

No definite dimensions were taken for the length or width of the figures we made. Most of them, however, are six inches or less in length with their widths in proportion. Even though other dimensions were used, the figures would still be entirely satisfactory to work with.

After the figures had been made, it was necessary to have some way to take care of them. In order to do this, a small cabinet was made with three cells or drawers, somewhat resembling a chiffonier, except very much smaller. The figures were placed in these cells beginning on the left and continuing in the same order as they appear in the book. In order to further help the students in finding the right figure without a waste of time, a number corresponding to the number of each proposition in the book was written out in braille and pasted on the face of each figure when the other letters were mounted. The students now have no trouble in locating the figures wanted. Each day the students take from the little cabinet the figures to be used in that day's work, carry them to class, make the recitation and return them to the cabinet.

In case a line was to be drawn somewhere in the figure, a groove the size of the geometric lines in the braille books was cut into the figure.

It was necessary for a few of the figures to be made in more than one piece. In only two propositions, however, do they consist of as many as four pieces, and these are of such a nature that they do not confuse the students.

Someone may ask how we use the materials described above. The answer is simple and one illustration will make it clear. Suppose that we are proving that "two triangles are congruent when two sides and the included angle of the one are equal respectively to two sides and the included angle of the other." In this proposition two triangles, ABC and XYZ, are given. The student now has before him two triangles cut from upson board with dimensions that satisfy the above conditions. The proof begins by placing triangle ABC on triangle XYZ so that A shall fall on X and AB shall fall along XY. The reason for this step is that "any figure may be moved from one place to another without altering its size or shape." This postulate begins to take on full meaning when the students actually pick up triangle ABC and place it on XYZ in such a way as to satisfy the above conditions. Since AB was given equal to XY and the two ends, A and X, were made to coincide, of course the other two points, B and Y, will coincide, since the two lines were given equal. We now have point B coinciding with point Y, and the students may see that such is the case.

Now AC lies along XZ because angle A was given equal to angle X. By using the figures, the students may again see and touch these lines as they lie along each other. It also recalls to their minds the definition

of the equality of angles. Since AC is equal to XZ (given) and the points A and X have been made to coincide, then the points C and Z coincide. We now have two points, B and C, established. It remains to see how many lines may be drawn between these points. Of course only one line may be drawn. But a moment ago, before the points B and Y, and C and Z, had been made to coincide, we had two lines BC and YZ. Since the points at the ends of these lines have been made to coincide, the lines which formerly connected these points coincide, and thus we have the two triangles congruent, for they have been made to coincide in all of their parts.

By following the above procedure, students not only read that certain figures will coincide; they actually see and touch them as they have been made to coincide in all their parts. Any other proposition should be treated in a similar manner. After two figures have been made to coincide, they should be turned about and observed from all points of view. This practice helps to eliminate the occasional idea that all sets of figures must have the same shape or rest on a certain side to be proved congruent.

In conclusion, by using geometric figures in the above way, it seems that we have placed our work in geometry on a more scientific basis and have included much of the laboratory work with it. To attempt to teach geometry to blind students without the help of some such scheme would, it appears, have about the same effect as teaching any other course in science without offering the laboratory work connected with it. Too much emphasis cannot be placed upon the use of geometric figures cut from cardboard or some other similar substance. With their proper use, I firmly believe that the study of geometry may be made as real and as interesting to the blind as it is to the seeing. After six years' teaching experience with both groups of students, I am confident that high school geometry may be made to mean as much to the blind as to those with sight.

How the blind are able to make drawings for construction problems will be explained in Part II, of this paper. (Part II will appear in the January, 1933, issue of *The Teachers Forum.*)

FOUNDATION LIBRARY

The publishing firm of Ambrosius Barth in Leipzig, Germany, has just issued a 303-page book called *Raum- und Gestaltsauffassung bei operierten Blindgeborenen vor und nach der Operation* (Space- and Object-Perception in Those Born Blind and Operated Upon, Before and After the Operation) by Dr. M. von Senden. This work purports to be a careful analysis of all cases of "Seeing after operation" recorded in literature, and discusses the resulting physiological and psychological changes. It raises the question: "Do the blind, through their sense of touch, gain a perception of space corresponding to that of the seeing person?"

This book probably influenced the governors of the Janus Stolp Foundation of the University of Leiden, Holland, in choosing the subject for their biennial scientific competition: An original contribution on *The Psychology of the Knowledge of Space in the Blind.* Submitted manuscripts must not exceed 40,000 words, must be typewritten in Dutch, German, English, French, or Latin, and should be sent to Professor W. B. Kristensen, 31 Witte Single, Leiden, Holland, before January 1st, 1934. The winner will receive a gold medal valued at 250 florins and a similar amount in money, or, if preferred, 500 florins cash.

In this connection the case of Earl Musselman, twenty-two-year-old blind Philadelphia boy who last year gained his sight through a skilful operation, is of interest. He describes the process of "learning to see" in an article "Whereas I was Blind, Now I See" in the October, 1932, number of the *Cosmopolitan Magazine.*

HELGA LENDE, *Librarian.*

DOCTOR ALLEN SAYS:

THE EDUCATION OF THE BLIND INVOLVES THE EDUCATION OF THE SEEING

As soon as we realized that the mere charm of the new plant at Overbrook would attract visitors, we abandoned the regular set exhibition of the old institution and resolved to replace it with the continuous performance of a well-conducted school. Here was an extraordinary opportunity to keep the pupils to their best endeavor and to supplant, in many sympathetic minds, pity for the blind with the respect which they can fully merit, and lack of which frustrates our best efforts at training them for diffusion in society. Yes, we would strike a match that should light two candles—a superior all-round education of the pupils and a more rational and hospitable attitude on the part of the local public.

We selected our visitor's attendant with care and impressed upon her the duty of making every caller welcome. We developed, first in teachers' meetings and next in after-chapel talks, the whole matter of proper attitude towards visitors. Then I, knowing that where there is no leader there can be no followers, gave personal attention to many a stranger who had come out of mere curiosity and did my best to make of him a friend to our cause; and I continued with increasing pride to do this year after year. The principal instructors were encouraged so to arrange their teaching schedules that they could often do the same. An occasional pupil, too—who for the moment needed encouragement rather than instruction—was asked to show people about: their exclamations and remarks over what they saw could be depended upon to dissipate his vapors.

So pupils and teachers alike soon got used to visitors and were little interrupted by them. The printery was a favorite stopping place. A quarter of an hour spent there observing how simple a matter it was to turn out embossed books and music scores, also maps, diagrams, examination papers and common table games adapted for use by fingers without the aid of eyes—this usually cleared away the mental cobwebs of misunderstanding and displaced the usual "How wonderful!" with the rare "How ingenious!" Is not most wonder the effect of novelty upon ignorance?

No day closed without its visitors; no year without hundreds and hundreds of them. Numbers of these remarked that they, when children, had visited such a school and had since kept a rational mind towards blindness and the blind. So whenever a group of children arrived I made it a point to greet them in a three-minute introductory talk. Overbrook Day, purposely planned each year when our cloister gardens were in their glory, brought about 200 guests. We gave them interest-holding, living demonstrations and ended with light refreshments on the lawn for all, guests, teachers and pupils intermingled. Our socialized team life at Overbrook aimed to be rewarding, affirmative, dynamic, and creative; and it was so.

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the A. A. W. B.); L. W. Rodenberg, in charge of the Braille Printing Department, Illinois School for the Blind (representing the A. A. I. B.); and Robert B. Irwin, Executive Director, American Foundation for the Blind (appointed by the Presidents of the A. A. W. B. and A. A. I. B. acting jointly). A. C. Ellis, Superintendent, American Printing House for the Blind, M. C. Migel, President, American Foundation for the Blind, and Dr. H. H. B. Meyer, Director, Project, Books for the Blind, Library of Congress, attended most of the committee meetings.

EDUCATIONAL OPPORTUNITIES FOR THE BLIND IN DETROIT

GLADYS L. DUNLOP

The first braille class in Detroit was organized in January, 1912, by the late Fanny S. Fletcher.[1] Six children were enrolled and the only available space was the principal's office of a certain old school building. Through the past twenty years the department has developed gradually until fifty-seven children are now enrolled with satisfactory provisions for elementary, intermediate and high school training.

Teachers with special training and long experience with blind children have been provided, individuals have been studied, curriculums of the day school have been modified and enriched to meet the needs of the handicapped child, and particular emphasis has been placed upon the socialization of the individual.

A glimpse into some of the classes of varying age and grade will serve to give one the knowledge of endeavors made in carrying out the education of the blind child.

In the pleasant classroom where our young children have their first school experiences, guided by an enthusiastic young teacher, even the babies learn the following:

"I have ten little toes that are all in place,
I have one little nose that is on my face,
My fingers are still where they ought to be,
And there's nothing in the world the matter with me.

My thumbs and ears are as good as new,
So I give three cheers and a tiger, too,
I can dance and sing and shout with glee,
For there's nothing at all the matter with me!"

These are simple lines, but they convey the underlying principles so necessary in the teaching of any handicapped child. Not a constant reminding of one's limitations, but rather a seeking of the child's capacities; a development of the individual, physically, mentally, and socially. In the words of a recent report of the White House Conference: "The school program must be arranged to protect and improve the physical, mental and emotional health of every child and to preserve that most sacred thing to every child—his personality, and allow him the fullest opportunity to develop his best self." The Detroit day classes have been developed with this thought in mind, aiming to teach the child that an enlargement of his capacities makes of him a person of social and economic independence capable of functioning in his community as a seeing person.

When the blind child comes to us for the first time, we ask ourselves, "What does he know?" "What are the things which he can do for himself?" Upon the answers to these questions depends the type of early training which is provided. Many come from homes where the handicap has been overemphasized, and it is thought that the child can do nothing for himself. Since the child coming from this environment has learned little through imitation, he comes to us practically untrained and untaught. Too often the simple toilet habits have been neglected. Sometimes we discover that the child cannot feed himself; neither can he put on his clothes or take them off. Another may stand helplessly waiting for someone to take him where he wishes to go.

For the type of child described above, nursery care and training is provided. Directed play is stressed from the outset, for most of these little children have but slight concept of the meaning of play, of the various games and toys used by children, or of the joy which comes from play associations with other little people. Sense training is

[1] This article was originally presented by the author in the form of a paper at the meeting of the Michigan Association of Workers for the Blind, June 16, 1932.

introduced early, and common nursery school and kindergarten devices are used. Paper-folding, paper-tearing, with and without pattern, various types of knitting, also work with clay and yarn, serve to develop motor control and manual dexterity.

When the child has a background of experiences somewhat comparable to the seeing child at six years of age he is introduced to the braille peg-board. Not until he can manipulate the pegs well is he given any knowledge of the reading mechanics. When once the child can handle the board and the pegs in a satisfactory manner, the counting of the cell is taught. Soon the child is ready to learn his letters. This involves the name, the initial sound, and the count for each. Word- and sentence-building on the board is introduced early. The teacher also provides reading practice in brailled letters and simple sentences. Finally the child is ready for his braille primer. The length of time required for this early process depends of course upon the child's background of experience and his mental capacity.

It is recognized that the method described above is not the latest developed for the teaching of braille reading. However, careful consideration has been given the word and phrase method, with the general conclusion on the part of the supervisor and teachers that for the superior child it is satisfactory, but does not meet the need of the slow or dull normal pupil.

For the child who has been allowed to develop more or less normally previous to his entrance in school, this early school training is easily accomplished and he soon reaches a point where he can begin actual braille study. For the large majority, however, a teacher who possesses indomitable patience, a real knowledge of child psychology and the technique of handling blind children, is required in order to break down unfortunate personal habits and mannerisms acquired through early years of inactivity and inattention. Only when the blind child has been, in a measure, adjusted to his school environment can any attempt be made to teach him braille.

Perhaps the most outstanding feature of the Detroit school program is the contact with seeing children, made possible through the social studies. A visit to the science classroom proves the actual participation of these children. Here the blind have the same opportunity to *see* the birds, flowers, or whatever specimens are being studied and also the same opportunity for discussion. The clever and interested teacher is always devising ways and means of presenting the material to the blind child in the most advantageous way. In this, she is assisted greatly by the teacher of braille.

The auditorium hour, a socializing force in any large school, does much in assisting the blind child in his development. The opportunity of participation in plays and various types of entertainment with the seeing develops to a high degree the poise and self-assurance extremely desirable in any child, but most of all in those who are handicapped. It is interesting to note that for the Christmas play presented in one of our large elementary schools this year, a blind girl from one room and a blind boy from another were selected as the leading characters. These facts are emphasized because of the opinion on the part of many unfamiliar with our program, who contend that blind children cannot become an integral part of the day-school group.

Upper elementary grades are cared for in two rooms. Here we find continuation of the cooperative program as introduced in the early elementary classes. Assignments are obtained from the classroom teachers and lessons are prepared under the supervision of the braille instructor. Typewriting lessons are introduced early in order that the child may use the machine in preparing his written work which is handed directly to the regular teacher for grading.

Pencil-writing is also taught in order that the child may in later life sign his name for official business, and may also have a means

of communication with persons who do not know braille.

With these upper elementary children, additional types of handwork are developed. Weaving, basketry, and bead work are interesting mediums of expression. The opportunities also provided in the regular manual training and domestic art classes are of immeasurable value. Though sewing is taught by regular teachers, methods ordinarily employed for teaching blind children have been adopted.

The intermediate school with its varied program and its highly individualized subject matter affords excellent opportunity for the adolescent blind boy or girl. Careful attention is given to each child's classification upon entrance, dependent upon his mental ability and his particular aptitudes. A child who has limited mental capacity is not encouraged to take a literary course with a view to continuing in higher education. Rather, he is directed along vocational lines in the hope of placing him on a job when he has completed the intermediate school program. The services of the Rehabilitation Division and the Detroit League for the Handicapped have been of extreme value in the placement of individual children.

The vocational program in the schools offers much to boys in wood shop, metal shop, and auto mechanics. Girls are trained in domestic-art classes with the seeing. Special measuring cups and spoons have been furnished the blind and each, working with a sighted companion, is permitted to do everything possible for herself—measuring and mixing of ingredients, lighting of fires, cleaning and polishing, dishwashing, etc. When asked whether the girls work as efficiently as their seeing friends, the answer as stated by the teacher is: "I wish all my girls could do as well as those who do not see" or "I should enjoy teaching a class made up entirely of girls who are sightless."

In the physical-training program (including swimming) in the intermediate school the blind child also takes his place in regular classes. When last winter one of the girls was a representative in the competitive contest between schools, it gave particular satisfaction to all concerned when she came in third on the list.

Orthopedic attention is also given those who need it. Wry necks, stooped shoulders, and twisted backs, caused by an attempt to use a very limited amount of vision, are considerably remedied by these exercises.

For those who have a real desire to continue work beyond the ninth grade, opportunity is provided in one senior high school. Again, however, special attention is given to the program undertaken. Only those with good mental ratings are encouraged to take college preparatory work. For the others broad training suited to the needs of the individual is given. In the high school all subjects are taught by the regular teachers with the exception of geometry. Any special assistance required or brailling of material is supplied by their special teacher.

The botany laboratory is always open to blind students. Here the teacher especially adapts materials when necessary. Certain students have taken physics, each working with a seeing boy who in reality performs the experiment, giving each detail to his sightless companion for all computations.

Domestic art in the upper grades, as in the intermediate school, furnishes further home training for the girl whose interests lie in this direction. To visit the school on a special day when tea is served, and to see one of our blind girls pouring, or to hear another tell of the excellent biscuit she prepared for the family dinner the previous evening, serves as proof of the practical value of this training.

And now the question arises as to what becomes of these boys and girls after they graduate. Perhaps a few illustrations will suffice. One finished law at the University of Michigan and is now engaged as an assistant prosecutor for the City of Detroit;

another, after one year of college work, is training as an assistant to the librarian in charge of the Department for the Blind of the Detroit Public Library; a third has been satisfactorily placed in a candy factory where, because of her dependability and her sunny disposition, she has been retained in spite of the depression. Others have satisfactorily produced materials in the home, working under the direction of the Detroit League for the Handicapped.

In the preceding paragraphs an attempt has been made to show how the regular school curriculum meets the needs of the blind child. In addition to the regular subjects, individual piano instruction is given any child who has musical ability. The teacher, a graduate of the Michigan State School for Blind, is responsible for the instruction. At the present time twenty-six children are profiting by this training. An annual recital, in which each is given opportunity to demonstrate his accomplishment, has become an important part of the work.

Home teaching is an important service rendered. The obligation for this work, which was begun under the library division, was assumed by the Board of Education in June, 1930. Adult blind people and children who are home-bound are included in this group. There are enrolled at present nine children and ten adults. Visits are made to the homes twice during the week for children and once for adults. During 1931-32 seventeen adults have been taught to read and write braille. This is more than in any previous year.

Two features of Detroit's program not yet touched upon are the testing program and the health examinations. All children are given the Hayes-Binet tests for the Blind. Care is observed, however, in interpreting the results of the test in light of the experience and early training of the individual. No child, regardless of a low intelligence quotient, is excluded from the classroom until the teacher and supervisor, working together, have had ample time to determine the child's teachability.

Health inspection is a routine procedure in the public schools of Detroit, and blind children share this privilege. Special attention is given to eyes, ears, throats and teeth. Complete physical examinations are made when necessary. Recommendations made by the doctors are followed by the Department of Health nurses. For those children whose families are financially in a position to pay for services, attention by a private physician is urged. For those who can afford to pay little or nothing, clinic services are arranged.

Another matter of deep interest to all is the experimental Training Cottage for Blind Children. The idea of this project, which has been in operation for two years in Detroit, originated with Charles F. F. Campbell, Director of the Detroit League for the Handicapped. The Junior League finances the cottage through its own membership. Supervision of the work is carried on by a committee of League members assisted by the supervisor of the work for blind in the public schools.

An attractive house three blocks from one of the classes for the blind was chosen for living quarters. Here the children live as one family from Monday until Friday when each child is returned to his own home for the week-end. The cottage aims to provide the blind child with experiences leading to normal social development in a situation which approximates that of normal family life. It does this without taking away the responsibility of the parents for the child, since he returns home each week-end.

Children were selected to live in the cottage who most needed general social training. Such children exhibited a lack of independence, mannerisms, an inability to adjust in school groups because of overattention at home, and the effects of an uncooperative attitude by their parents in correcting remedial health defects, as well as a poor economic status.

The cottage opened in September, 1930,

with six children, ranging from nine to fifteen years of age. To date, the cottage has had contact with nine children, six having remained through the two-year period. The remaining three have been removed from the group because of illness or because it was felt that the child could adjust satisfactorily in his own environment.

When the children were admitted, an individual chart was made for each one. On it were listed headings as follows: "General Behavior," "Toilet," "Eating," "Sleeping," and "Dressing Habits." Under each heading were questions such as: "How many blind mannerisms has the child?" Underneath was a place for checking *many, few,* or *none.* The various habits were checked in this way which, when analyzed, gave a fair picture of the child upon entrance to the cottage.

The aims of those working with the children were: (1) to make each child as independent as possible in doing things for himself; (2) to teach him how to do certain home tasks; (3) to give each a definite responsibility for the home duties; and (4) to stimulate their play interests.

Out of this program we hoped for an improvement in general conduct, greater self-direction, greater self-control, and a better cooperative spirit, which makes for improvement in general school progress.

A complete set of behavior analysis sheets were re-checked at the close of the two-year period. Time and space will permit only general statements concerning the results. The physical health of all the children has improved. Absolutely dependent children have become less dependent; others who manifested behavior problems because of selfish attitudes and lack of opportunities for self-expression have markedly changed; improvement in eating, sleeping, and toilet habits has been noted. In fact, in every child some improvement has been made. So worth while has the project been that a continuation of this service is being planned by the Junior League, much to the satisfaction of the supervisor.

Helen Keller said to the Junior League group when she came to dedicate the cottage: "The longer I am in the work for the blind, the more convinced I am that the blind suffer not so much from lack of sight as from the attitude of the public towards them. Most people believe that because a person is blind, he cannot do anything well, and many think they should not be allowed to work at all. When this attitude is replaced, as you are doing, by one of understanding and helpfulness, our difficulties will no longer be insurmountable. The training cottage will not only benefit the children, but it will also show those who see how to be friends to those who cannot see."

And so in all our work we are not only attempting to educate the child but to develop a new public opinion. Only the other day, upon entering one of the classes, I learned that a friendly contact had been made through letters with children of literature classes on the extreme outskirts of the city. They in turn had made attractive booklets of the poems they liked best which the teacher could read to her group. These little people will be a part of the general public of tomorrow. Unquestionably the contacts which these blind children have with the seeing will create a new public attitude which will not allow the seeing to be heedless of the blind person of the future who asks his rightful opportunity of serving in that position for which he is best fitted.

The General Science Committee have sent mimeographed copies of their tentative course of study to the following teachers: J. H. Botts, Principal, Missouri School; Raymond A. Reasor, Connecticut School; Miss Grace L. Koehne, Indiana School; and Edwin A. Chambers, Overbrook. These teachers will try the course during the ensuing year for the purpose of making suggestions and corrections.

SHALL WE TEACH CONTRACTIONS TO BEGINNING BRAILLE READERS?

FRIEDA KIEFER MERRY, Ph.D.

The question as to the most feasible time for introducing contractions to beginning braille readers has never been settled experimentally, and opinions and practices differ widely.[1] One worker[2] who has made an extensive study of reading methods used by teachers in the various schools for the blind in this country suggests that ". . . the best place for learning contractions seems to be in the second grade." The final decision, however, should be based upon the results of extensive, well-controlled experiments conducted at different levels in the reading progress of blind children.

The writer and several of the teachers in the Lower School at Perkins Institution and Massachusetts School for the Blind had been contemplating an experiment in which beginners would be taught braille *grade one and a half* (with its 44 contractions) instead of the customary full spelling (*grade one*). No definite program was outlined, however, until Robert B. Irwin's[3] study of the mechanical aspects of *grade one and a half* and *grade two* renewed interest in contractions.

The First Experiment

In September, 1929, the writer selected two groups of young children, just beginning braille reading and fairly comparable in mental ability and degree of vision, to participate in an experimental study.[4] Children with mental levels under six years were excluded. An equal number of boys and girls was included in both groups. One group (known as the Experimental Group) was taught *grade one and a half,* while the other (the Control Group) learned *full spelling.*

The children were paired roughly as follows:

Experimental Group (To use *contractions*)			*Control Group* (To use *full spelling*)		
Child	*M.A.*	*I.Q.*	*Child*	*M.A.*	*I.Q.*
M. L.	8-10	115	A. A.	8-9	107
J. C.	9- 8	126	R. P.	9-7	107
M. G.	8- 3	87	C. B.	8-0	123
K. D.	7- 1	91	F. V.	6-5	92
A. A.	8- 8	89	A. G.	9-5	98

Procedure

Since it seemed undesirable and artificial to require the teachers to conform to any one method of teaching reading, each teacher (who had children in both groups) used her own particular methods. Time, however, was limited to thirty minutes per day, and all absences were noted. Furthermore, the teachers were asked to submit detailed daily accounts of phrases, words and sentences used in the lessons and later progress in the reading texts. All reading exercises for the Experimental Group were written in *grade one and a half,* while the material for the Control Group was given in *full spelling.* The parallel-group procedure seemed the best technique for this type of an experiment. In this technique two groups of *equal* ability are used. One variable is applied to the one group while the other variable is being applied to the second group. Three texts in full spelling were transcribed for our use into *grade one and a half* by the Howe Memorial Press. They are: *Pathway*

[1]Allen, Edward E., "*Report of the Committee on Efficiency,*" reprinted from the *Proceedings of the Twenty-fifth Biennial Convention, American Association of Instructors of the Blind,* Overlea, Md., June, 1920, p. 61.

[2]Maxfield, Kathryn E., *The Blind Child and His Reading,* American Foundation for the Blind, New York, N. Y., 1928, p. 29.

[3]Irwin, Robert B. and Wilcox, Ruth E., *A Comparative Study of Braille Grade One and a Half and Braille Grade Two,* American Foundation for the Blind, New York, N. Y., 1929.

[4]Grateful acknowledgment is made to the teachers of the children in these experiments: Miss Feodore Nicholls, Miss Sadie Turner, and Miss Susan E. Morse.

to Reading, Primer;[5] *Wag and Puff*;[6] and *The Winston Primer*.[7]

The investigator tested the children as their progress warranted. Since they were not using the same material at the same time, the examiner made as nearly comparable tests as possible and at the end of the school year checked all the children in rate and comprehension upon a test using the vocabulary common to both groups.

Records

The percentage and types of errors made by each child in both groups were recorded under the following classifications, as:

(1) Non-recognitions (words which the child was unable to identify);
(2) Substitutions (words or phrases mistaken because of similarity of form or context, as, for example, *house* identified as *horse,* or *boy* for *child*);
(3) Omissions (letters, words, or sentences omitted);
(4) Insertions (adding words or phrases not in the context);
(5) Mispronunciations;
(6) Repetitions (words or phrases repeated two or more times).

Results of First Experiment

An analysis of the types of errors made by children in both groups shows that non-recognitions and substitutions constitute more than 95 per cent of those made by both groups.

Intensive experimentation upon these ten children shows differences in speed in favor of the beginners learning contractions. While the difference in accuracy between the two groups favors the Experimental Group, it is not quite so reliable statistically as is the difference in speed.

The Second Experiment

In order to increase the reliability of the results obtained in the first experiment it was hoped that a second investigation might be undertaken upon new groups of children. In September, 1930, however, there was an insufficient number of suitable subjects among the new entrants; hence it was necessary to continue the research with the original groups.

Practically the same technique was followed as in the previous study, except that the *Gray Oral Reading Check Tests,* Sets I and II,[8, 9] were substituted for those devised by the examiner.[10, 11] These tests are simply measures of skill in the mechanics of oral reading.

The Howe Memorial Press duplicated in *grade one and a half* a number of books in *full spelling* which we use ordinarily in our class rooms.[12]

Results of the Second Experiment

An examination of the types of errors made by children in both groups again shows that non-recognitions and substitutions occur most frequently.

An analysis of the records for 1930-1931, as well as the combined results for 1929-1930 and 1930-1931, shows a distinct differ-

[5]The ink-print edition is sold by Silver, Burdett & Co., Boston, Mass.

[6]The ink-print edition is sold by the Wheeler Publishing Co., Chicago, Ill.

[7]The ink-print edition is sold by the John C. Winston Co., Philadelphia, Pa.

[8]The ink-print copies are sold by the Public School Publishing Co., Bloomington, Ill., while braille copies (*full spelling*) may be purchased from the American Printing House for the Blind, Louisville, Ky.

[9]Consult: Maxfield, Kathryn E., Op. cit., pp. 159-161.

[10]The final review test for the second experiment was compiled from the errors made on Sets I and II of the *Gray Oral Reading Check Tests.*

[11]For norms on both blind and seeing children consult: Maxfield, Kathryn E., *Adaptation of Educational Tests for Use with Blind Pupils,* Series III, "Educational Measurement," No. 1, American Foundation for the Blind, New York, N. Y., 1927, pp. 31-38.

[12]Blaisdell, M. F., *Pine Tree Playmates,* Benj. H. Sanborn & Co., 131 Clarendon St., Boston, Mass.

Firman and Maltby, *Winston Companion Reader, First Reader,* John C. Winston Co., Philadelphia, Pa.

Johnson, Eleanor M., *My Progress Book in Reading, Number One,* American Education Press, 40 South Third St., Columbus, O.

Richey, Emma C., *Stories of Animal Village,* Beckley-Cardy Co., Chicago, Ill.

Serl, Emma, *Work-a-Day Doings on the Farm,* Silver, Burdett & Co., Boston, Mass.

Sherman, J. W., *The Gay Kitchen,* Little, Brown & Co., Boston, Mass.

Suhrie, A. L. and Gee, M. G., *Story-Fun, Second Book,* World Book Co., Yonkers, N. Y.

ence in speed favoring those children reading contractions, but again the difference in accuracy is not so statistically reliable.

Check-up of the 1929 Readers

A check-up of the children in the 1929 reading groups, after three years, continues to show that those students reading contractions are faster and more accurate than those reading full spelling. Results of standardized spelling tests indicate that learning to read contractions had no adverse effect upon the spelling ability of the children in this experiment as many teachers thought might be the case.

The Third Experiment

The following children composed the reading groups for 1931-32: (The original choices were somewhat different, but these groupings remain after several children were dropped on account of illness, and for other reasons.)

Experimental Group			*Control Group*		
Child	*M.A.*	*I.Q.*	*Child*	*M.A.*	*I.Q.*
M. R.	7- 3	87	D. B.	6-4	67
E. H.	6-10	77	R. P.	8-7	99
I. M.	10- 4	116	J. B.	8-8	115
L. N.	9- 9	79	D. G.	9-1	115

The procedure and the technique of testing were similar to that used in the second experiment.

Results of the Third Experiment

Again, an examination of errors shows the predominance of non-recognition and substitutions.

Results of the 1931-1932 investigation show a difference in favor of the Experimental Group for speed, but the Control Group excels in accuracy. The statistical reliability of the differences between the medians for both groups, however, is not great.

Conclusions and Comments

As has been pointed out repeatedly by the writer, it is exceedingly dangerous to draw conclusions from results obtained on so few cases. Pooled data from the most representative schools for the blind would insure more reliable results. This also would remove the chief criticism against the use of the parallel-group technique, i. e., that *exactly* comparable groups cannot be found where the school enrolment is so limited.

Thus far, indications are that the teaching of contractions to beginning braille readers promotes greater speed of reading and, in some instances, greater accuracy.

The errors made by *all* children in these experiments show a need for earlier and more intensive drill in phonics.[13]

From the results obtained it seems doubtful if learning to read contractions has any deleterious effect upon spelling ability, and so far as our limited investigations are concerned there seems to be no reason why *beginners* cannot learn to read contracted braille—*grade one and a half.*

[13]Many helpful suggestions may be found in *The Word Method of Teaching Phonics* by Anna D. Cordts, Ginn & Co., Boston, Mass., 1929. 328 pp.

The approximate enrolment of students in fifty-seven residential, four private and twenty-two day schools for the blind at the end of the first week of school this fall was 5891. This total was reached through reports received from practically all of these three types of schools for the blind. In a small number of cases where schools had not opened at the time of the report, or where no answer was received, the last available enrolment statistics were used.

The above total represents an increase of only one-half of one per cent over 1931-32, and about five per cent over the number reported for 1929-30 to the Sub-Committee on the Visually Handicapped of the White House Conference on Child Health and Protection. Age groupings were also obtained, and it was found that 19.5 per cent of pupils enrolled are from five to ten years of age; 38 per cent, ten to fifteen; and 42.5 per cent above fifteen. Approximately 55.4 per cent of the total enrolment in schools for the blind is composed of boys; 44.6 per cent of girls.

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for
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HOME ECONOMICS

In the September *Outlook for the Blind* there is an article by Miss Ida Elizabeth Roberts on "The Home Economics Apartment at Overbrook" which is worthy of attention, not only for the information it presents, but for the ideas it suggests. The value of the Overbrook training in making the blind girl a positive asset in the home is obvious, but so far as we know, little emphasis has as yet been placed on the *vocational* possibilities of home economics courses for those who, although educationally blind, have vocationally useful vision.

If such a girl is accurate, reasonably quick in her movements, and possessed of good manual ability, she is capable of keeping the corners clean, of getting the proper dishes on the table, and even of arranging flowers with good taste. She is also able to scrub the small boy's ears and to avoid stepping on the baby's fingers. She is able to meet the needs of the average family as cook, general housemaid, upstairs maid, or nurse girl.

However, unless she is most unusual in ability and personality, she will need superior vocational training in order to qualify. In this training should be included the proper understanding of the relationship which must perforce exist between maid and employer. Otherwise, she will be about as popular and her position about as secure as that of the young college graduate who tries to tell his employer "what's what."

The knowledge gained in a household economics department which offers vocational courses may easily give the necessary background for a number of vocations according to the special ability of individual girls. For instance, a totally blind but carefully groomed girl might prove of real service in a country tearoom where she could make the sandwich fillings, pies, coffee and toast, and where she might pack the ice-cream moulds, choose the menus, and even upon occasion act as cashier.

For the girl who has had excellent and sufficient training in household economics, and who realizes the necessity for careful grooming and breeding, the possibilities of vocational placement should be enhanced.

HELPS FOR TEACHERS

An interesting chart is given in the October issue of *School Life* published by the Office of Education, United States Department of the Interior, Washington, D. C. It lists forty-three non-commercial organizations from which may be obtained reference and supplementary teaching material, such as: books for children; charts or maps for classroom use; pictures for class room use; directions for play, games, pageants, etc.; individual record cards, diaries, etc.; child development study outlines and information; lists of books for children; and lists of books for adults.

The list is tabulated in such a way as to show which types of material are obtainable from each organization, and whether or not there is a charge. The American Foundation for the Blind is listed as having material regarding child development, study outlines, and information, some with a charge, and some free. Copies of this chart may be obtained free by writing the Office of Education.

WHY THERE SHOULD BE BOTH RESIDENTIAL AND DAY SCHOOLS FOR THE BLIND

JEAN PORTERFIELD

"Should Residential Schools for the Blind be superseded by Day Schools?" has been, for the past some years, no matter in what country, one of the most frequently discussed questions among the workers and other persons interested in work for the blind. Many a long and varied "endeavor-to-prove" has been either written or spoken in behalf of one or the other of these systems. Each type of school has always claimed a long and staunch line of supporters, who firmly believed that the only salvation for the blind child or, in fact, for all work for the blind, was through the particular avenue of education presented in the type which they were advocating.

Yet, it is only when the child, rather than some special type of school, becomes the object of such a discussion that the real value of either system can be definitely realized. The real merit of each procedure can then be measured in terms of direct benefit to the child, and also can be fully appreciated in the results obtained in his development. Such a development of the child, through any form of education, should always be considered from the standpoint of both the individual and the group. As in all phases of education, the training of the blind child should be both scientifically based and measured before it can hope to reach a higher level of attainment. Therefore, the primary interest should be to determine which type of school would be the more adequate to meet the needs of each individual child.

Each system has a great deal to offer. The residential school, with its beautiful grounds, spacious buildings and complete equipment, has much to give to the boy or girl without sight. This is especially true if the child comes from a home which is other than that considered at least "average." A blind child will naturally absorb more of his environment than his seeing brother or sister for, due to his handicap, he will be called upon to spend many more of his hours within the limitation of that environment, which means he will spend a great deal of his time at home.

Very frequently, in many of the homes from which our pupils come, the family has little time or interest to see that the visually handicapped child is given every opportunity to develop along natural and correct lines. Very often he is allowed to sit day after day in some dark corner or to content himself with idly rocking all the day. Even though this child may attend school a certain number of hours each day, still it is the home in such a case that will have the most lasting influence upon him, and he will become typical of his environment—lazy, unkempt and always seeking the way of least resistance.

It is very evident that such a child would develop far better in a residential school, where desirable influences would be much more permanent For this school would give him the rounded, well-balanced training so necessary to cope with an unfortunate background.

Again it is the residential school that can give the best training to the blind child who has been "pampered," because it takes him out of a home circle, where he has been allowed to do just as he pleased regardless of the effect on himself or on others. When such a child is placed in the regulated, well-balanced atmosphere of the residential school he must sooner or later realize he has been thrown upon his own resources. Such a training will bring out that initiative which otherwise might never develop.

On the other hand, in the day school, there is the "contact value" which is so vastly important in the development and train-

ing of all children and especially so in that of the blind child. For, no matter how well the residential school is regulated it will always have that atmosphere of "institutionalism" so unlifelike in its routine and in its requirements. In spite of the splendid habits of routine which are formed there and which are so vital in earning a livelihood, there is in an institution no necessity for learning the importance of adapting the individual to the situation, so well-planned and worked out is every detail of life in a residential school. The bigness and the hardness of the world is seldom ever realized within the shelter of the institution, and for this reason many graduates have found it difficult to face the demands of life when they were confronted by them.

Many an individual would be simply lost if he were to be placed in the routine life of the residential school and would become more or less of a little machine, soon losing all of whatever individuality he might have possessed. So submerged would he become in the requirements of the group, that it would not only be his consciousness of blindness, but his feeling of timidity and fear which would emphasize his sense of inferiority. This in turn would not only influence his work in the school, but would have a direct bearing upon his entire life. If such a child could stay in an average American home, and could go to and from a school for the seeing each day, much of that sense of inferiority would disappear or never develop. For he would be required to use every part of his individuality to meet the necessity of getting along in such a situation. Each step of progress by this child would be carefully watched and praised by the members of the family, and this would greatly assist in bringing out hidden interests and activities.

Then, there is that child, who from the very start defies the routine and life of the residential school, and finds far greater satisfaction in the day school. In the latter he is required to spend only a short period of each day in regulated situations and can, through his freedom outside of school, balance and adapt his life to limited routine. Such a child is so completely individual that he never can learn to become a fully-conforming member of the group, since guided individuality will always be his keynote to success.

Thus, depending upon the point of view from which the question is studied, each type of school has a great deal to offer which is far-reaching in purpose and in results. Only when some system has been devised by which each applicant for training in a school for the blind can be given a series of thorough tests to determine which type of school is the better for him, can the relative value of these systems be truly realized. Then, it will be the interest in the child rather than some particular personal opinion which will bring about a true spirit of cooperation among all the educators of the blind to the best advantage of blind children.

Our Contributors

Mr. James E. West, Chief Scout Executive of the Boy Scouts of America, has for many years been interested in outdoor activities and nature study for the physically handicapped.

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The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

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AN EXPERIMENT WITH GIFTED BLIND CHILDREN

Ruth L. Farley

In September 1931, the Department for the Blind of the Los Angeles Schools began an experimental class for gifted blind children. At that time, the class was made up of five children: one boy and four girls in the third, fourth, and fifth grades, with ages ranging from seven to ten years, and I. Q.'s from 112 to 148. The personnel changed somewhat, so that at the close of the last school year there were seven children: two boys and five girls in the fourth, fifth, and sixth grades, with ages ranging from eight to thirteen years and I. Q.'s from 112 to 148. Only four girls remained in the class the entire time.

The motives that actuated the organization of the class were: (1) The belief that blind children of superior mentality are capable of doing more than has been expected of them, or than has been required of the group as a whole, and that they, as well as their sighted schoolmates, will profit as a result of more careful classification; (2) the desire to give them an opportunity for self-expression; (3) the wish to minimize the use of special devices by developing every mental ability to the greatest possible extent.

Members of the class, as do all others of the special department, go to the regular classrooms for recitation in social studies, music, and oral English. They make contributions to any activities in these rooms, in addition to carrying out activities of their own in the special room.

All children who have not already learned it are taught to read and write braille grade one and a half. The first opportunity to teach grade one and a half to a beginner came this spring with the transfer of a nine year old fourth grade boy from a sight saving class. He learned, with no apparent difficulty, to read and write in ten days, and by the end of the year, after four months in the class, was reading the story of "William Tell" from the *Beacon Third Reader*. He had learned to read print, but because he had only very restricted central vision, had acquired the habit of reading a word at a time. This was overcome to some extent by separating phrases with double spaces. The children of the fifth and sixth grades are taught to read and write braille grade two.

Three of the reading periods each week are used at times when the children read to each other either for pleasure or for information. When the reading is for pleasure each pupil reads to the class some story or book suited to his reading ability. Sometimes he chooses a short story, but more often a whole book, such as "Jacqueline the Carrier Pigeon," which he reads from day to day as a continued story, usually stopping at the most exciting place. Reading for information is generally done as part of some activity. Then one child reads on some phase of the subject while the others listen and take notes in braille.

Great stress is placed upon the responsibility of these children to listen intelligently to what is read to them. To further develop the habit of careful attention, much of the material for classroom recitation is read by the teacher and most of the poetry is learned from dictation.

Definite periods are set aside when the children listen to good books and poetry read to them by the teacher, or to good music furnished by means of phonograph or radio. Thus an effort is made to develop an appreciation of the best in literature and music and to store the minds of these blind children with beauty so that they, unlike most of us, need not depend on external factors.

Emphasis in writing braille is placed upon speed and accuracy in the use of the slate. As soon as possible, however, typewriting takes the place of braille in written work

done for the teacher of the regular classroom. The children, of course, keep braille copies of these papers for their own use.

All of the children are taught to use the typewriter. Its place on the program is a most important one, for its use enables them to make distinct and very valuable contributions to the regular classroom work, and, for this purpose, is second in importance only to their ability to make good oral and written contributions. They command the respect of their sighted classmates when, because of their typing ability, they are asked to type the class books, labels, signs, notices, etc. Besides using the typewriter for written spelling, English, and arithmetic, the children are given regular lessons in writing from dictation. Some of them became so adept at this that they were able, this spring, to type over a hundred pages of arithmetic to be used by the children of the Sight Saving Class.

All special devices for working arithmetic have been discarded and the work is done mentally. At the close of the last school year, the fifth grade children had completed twenty, and the sixth grade thirty pages beyond the course of study requirement for these grades.

In order that the children may take a more active part in classroom music than is usually possible, and in anticipation of a time when the lack of braille music, or lessons from a teacher unfamiliar with the braille system, might place a limitation on their advancement, they are taught, and have demonstrated their ability to use staff music and print notation.

Pantomimes, plays, and folk dances are used in an attempt to overcome the stiffness and hesitancy of movement that blindness imposes. At first, it was thought necessary to modify the dances, but very soon the children were doing quite creditably those prescribed in the course of study for fifth and sixth grades.

The program is arranged so that each week, in addition to fulfilling the course of study requirements, every child has an additional hour or two for individual self-expression. At this time he may do the thing that interests him most, with the teacher free to help him in the capacity of adviser or secretary. During these periods, unhampered by the mechanics of braille writing, the children have dictated original stories, poems, plays, and musical compositions. They have also learned to sign their names with pencil and to play chess.

The method of conducting the work for this superior group is entirely experimental, and two years is too short a time in which to arrive at very definite conclusions. We have found, however, that these children are capable of doing much more than had formerly been expected of them, or of blind children in general; that they have developed a normal attitude toward their work and in their association with children who see; and that they have attained a great degree of self-reliance. This last, we believe, was demonstrated when the special teacher was absent for eight days this spring and the work went ahead without loss to the children and with no difficulty to the substitute teacher, who was entirely inexperienced in teaching the blind.

As the work continues, we hope to help these children to recognize and overcome, as nearly as it is possible, the handicap of blindness, to widen their scope of activity, and, above all, to give them spiritual independence by allowing them to feel that they are not living by the sufferance of others, but by their own ability to contribute.

The supply of the May 1932, issue of *The Teachers Forum,* Volume IV, No. 5, has been exhausted. The editors will appreciate receiving copies of this particular issue from individuals who are not maintaining a file. They should be sent to the American Foundation for the Blind.

REPORT OF MEDICAL TREATMENTS AT THE TEXAS SCHOOL FOR THE BLIND

1929-31

H. L. Hilgartner, M. D.
and
Louis Kirk, M. D.

The medical department at the Texas School for the Blind consists of three branches: dental; medical; and eye, ear, nose and throat. These three units cooperate with each other in maintaining a high standard of health among the 224 children who are enrolled in the school.

In making the following report, we shall first give the results for the year 1929-30 for the three departments, then for the year 1930-31.

The students who are enrolled in the Texas School for the Blind range from six to twenty-one years of age and come from all walks of life. One of the interesting features in this report is the small number of patients who have bad teeth. During the year 1929-30, the school dentist cleaned the teeth of 152 children, filled decayed teeth of 14, and extracted one or more teeth from only 19. The probable explanation for this remarkably low average is the regular routine and the well-balanced diet to which the children are subject.

There were, during the year 1929-30, also ten cases of chickenpox, three of smallpox, three of scarlet fever, one of meningitis (who died) and one of pneumonia. Smallpox vaccinations were done on 203 children, typhoid-paratyphoid A & B immunization on 192, and 16 were immunized with toxoid against diphtheria.

A large amount of work was done in the laboratory. Wasserman tests were run on 208 children with only four positives. Malarial smears and blood counts were done on two, X-rays were taken three times, while urinalyses and lumbar punctures were done only once each. The four syphilitics received twenty-seven injections of neoarsphenamine (neosalvarsan), and treatment was discontinued only because the school year closed. One child suffered from a fractured arm, and this was set with perfect alignment.

The eye, ear, nose and throat conditions found among the children, particularly the eye conditions, were most interesting. The eye affections which were found are summarized in Table II. As no surgery is done in the institution without a written consent from the parents or guardians, many children failed to have surgery performed because this permission could not be obtained. Only two tonsillectomies were done this year, but this in no way indicated the number of children who had diseased tonsils. There were six children in the school with trachoma who received daily treatment; from fifty to seventy-five pupils received general eye treatments.

In the year 1928-29, a number of children suffering from dense corneal opacities, the result of ophthalmia neonatorum, had Weiner's scaling operation performed for the first time. This operation is performed in the following way: the eye is anesthetized with three per cent cocaine. A V-shaped incision is made into the scar tissue, going down as deeply as possible without entering the anterior chamber. The wedge-shaped piece of scar tissue is then removed by very careful dissection. Following the removal of the scar tissue, Xeroform powder is put in the eye, which is then dressed with a dry patch. Following this operation, the child suffers no pain of any kind, and the wound is healed over in five or ten days.

Radium is applied from ten to twenty-one days after the operation. During the year 1929-30, this operation was performed eighteen times, and radium was used on twenty children; a total of 151 treatments were given. The results of this work were published in the July 1931 number of the *Southern Medical Journal.*

During the year 1930-31, the same work was carried on as during the previous year, with the addition of thirty-six intradermal tuberculin tests. All children selected for this test had similar ocular conditions, and each had vision of light perception or better. Of the thirty-six tested only sixteen were positive, and the tuberculin treatment was started on all of them. One student refused treatment after a few weeks. Fifteen children received thirty-six injections before the school year closed, totaling 540 injections. The results of this work will be published at a later date.

For the sake of brevity the number of treatments, operations, etc., are presented in Table I, which follows. In Table II are listed the diagnoses and number of cases of each type in the school during the years 1929-30 and 1930-31.

TABLE I

HOSPITAL REPORT

	1929-30	1930-31
Dental Department—		
Cleanings	152	179
Fillings	14	49
Extractions	19	47
Medical Department—		
Syphilis, congenital	4	4
Chickenpox	10	0
Smallpox	3	0
Scarlet fever	3	0
Meningitis	1	0
Pneumonia	1	0
Mumps	0	2
Malaria	0	3
Impetigo	0	3
Scabies	0	2
Death	1	0
Fractures	2	2

TABLE I—*Continued*

Laboratory Tests—		
Wassermann (with 4 positive)	208	41
Malarial smears	2	0
Blood count	2	2
Spinal punctures	1	0
Urinalyses	1	0
X-ray pictures	3	4
Coagulation tests	2	6
Tuberculin tests	0	36
Vaccination, etc.—		
Smallpox	203	46
Typhoid-paratyphoid A & B	192	0
Toxoid	16	23
Special Treatments—		
Antisyphilitic	27	0
Tuberculin	0	468
Eye, Ear, Nose and Throat Department—		
Operations:		
Tonsillectomies	2	6
Ziegler	0	1
Extractions	2	2
Iridectomies	3	3
Needlings	0	5
Scalings	18	24
Radium Treatments	151	141
Trachoma (daily treatments)	6	5

TABLE II

EYE CONDITIONS FOUND

Affections—	1929-30	1930-31
Keratitis	3	5
Uveitis	12	17
Ophthalmia neonatorum	35	43
Corneal opacities	52	73
Nerve atrophy	50	53
Myopia	1	4
Neuritis, retinitis, and chorioretinitis	9	25
Phthisis bulbi	17	28
Sympathetic ophthalmia	8	12
Staphyloma	10	15
Congenital cataract	21	38
Traumatic and inflammatory cataracts	17	22
Operative coloboma of the iris	3	4
Congenital coloboma of the iris	4	1
Congenital coloboma of the choroid	1	1

TABLE II—*Continued*

Conical cornea	2	2
Detached retina	1	1
Nystagmus	19	31
Anophthalmos operative	10	22
Anophthalmos congenital	2	1
Symblepharon	3	2
Buphthalmos	8	12
Ankyloblepharon	3	2
Pterygium	1	0
Albinism	3	3
Dislocated lens	7	11
Trachoma	6	4
Strabismus	1	1
Congenital absence of iris	0	1
Congenital microphthalmos	0	1
Retinitis pigmentosa	5	9

"Opportunities for the Preparation of Teachers of Exceptional Children," a pamphlet by Elise H. Martens, Senior Specialist in the Education of Exceptional Children, Office of Education, U. S. Department of the Interior, contains information which should be of interest to teachers of the blind.

It deals with the need and present status of teacher-preparation, and lists in detail the courses offered by institutions of higher learning for the training of teachers of exceptional children. Four are listed which deal specifically with the problem of teaching the blind.

At the State Normal College, Ypsilanti, Michigan, an introductory course is given in which the problem of teaching the blind is discussed, together with other types of physically handicapped. At New York University methods of teaching the blind are dealt with, together with the problems of sight conservation classes. The two outstanding and most complete courses mentioned for the training of teachers of blind children are those offered in summer session by George Peabody College, located at Nashville, Tennessee, and the Harvard Course, offered jointly during the school year by Harvard University and Perkins Institution.

FOUNDATION LIBRARY

The Museum of the American Foundation for the Blind has recently acquired two pieces of wire sculpture done by Berthold Ordner, Vienna, Austria, a blind man, whose work gained favorable comments from the critics at an exhibition in Vienna last March.

Mr. Ordner first worked in clay but gave this up as he had no means of paying for his material. He then decided to try wire of various kinds—steel, brass, and red copper. The result was surprisingly effective. His models show humor and imagination, and to each figure has been imparted the light, movement and expression characteristic to it. The pieces in the American Foundation for the Blind are a brass model of an ostrich, and a fisherman with his net, the latter done in steel wire.

Of other new acquisitions to the museum may be mentioned an arithmetic slate made in the School for the Blind in Copenhagen, Denmark. This slate is made of metal with a very sturdy wooden frame, and the metal type which fit into the square holes of the slate are provided with braille numbers. When the problem has been finished, a handle lifts up one end of the slate, thereby releasing the type. By a slight incline of the wooden frame, the type then are brought back to the receptacle intended for them.

American makers of maps for the blind would be interested in two collections of samples of maps received at the Foundation; one from the Institution for the Blind in Budapest, Hungary, the other from Breslau, Germany. Both kinds of maps are made from specially prepared cardboard, and are considered by experts as excellently suited for their purpose.

HELGA LENDE, *Librarian.*

DOCTOR ALLEN SAYS:
AN EXPERIENCE WITH ATHLETICS

Looking back at my nine years at the old institution in Philadelphia I see boy after boy undergoing punishment for petty offences against order. I see also some sent home, a few never to return to the only school open to them. This sort of thing cried out for a change. The trouble—the responsibility—rested not with the pupils but with the conditions with which we shut them in; and we knew it. What right had we to energize youth and to provide no normal outlets? Naturally we hailed Overbrook from afar as our Promised Land.

The superior regimen there would certainly demand abundant vents for letting off steam. The architect having been told of this "builded better than he knew." By housing nearly all departments around two 8 feet wide, 1/12 mile long, covered cloisters, into one of which every door opened, he forced everybody seeking to get anywhere—to meals, for instance—to go out-of-doors. Neither evenings nor stormy days could shut us in. For fair days there were, besides, seven playgrounds, where the young children could enjoy individual gardens, a sand pile, a rocking-boat, swings and trolley-coasters; the older boys, football. As to the older girls, they often promenaded singing in their cloister, or they danced together in the gymnasium.

Across Malvern Avenue we created an outdoor gymnasium; but this satisfied the younger boys only. For the older boys an understanding teacher presently started field sports there, and no sooner had we built for him our special running track than his boys began challenging; first, a local high school team or two, then that of a sister school. At more than one subsequent meet teams from four, and even from five, eastern schools like ours came together in wholesome emulation, the home team acting for two or more days as hosts to the visitors. Of course there were exchange visits, which experience, providing as it did, opportunity for observing how the several schools lived and did things, was in itself broadening and educating.

So far all went splendidly. Never before had our blind boys felt themselves so like other boys. Everyone candidated for the team; that is, made and kept himself fit. The *esprit de corps* left little occasion for the old-time mischief, to be followed by the academic punishments and rustications. We hailed our mild athletics as having ushered in for us a new era. But, our teacher, a true boy leader, departing and his successor being, alas, the sort of coach who worships the Great God Victory, the spirit of simple rivalry was gradually dissipated and replaced with that of beat-at-any-price. Pretty soon a visiting team went away disgusted, declaring it would not come again. Each side blamed and vituperated the other. Again the trouble was not really with the boys but with the conditions over which they had no control. Meanwhile we had learned our lesson—that when victory is the sole end and aim of athletics, it is won at the cost of character; that the whole school atmosphere tends to become more or less vitiated; likewise that an honorable defeat has values by no means to be despised.

It took two years under proper leadership to restore to the boys the spirit of fair and honorable play, to have them learn to be good losers and, what is even harder, good winners. Then neighborly relations were resumed with the other schools. Athletics have earned an important place in academic life, but they can all too easily be overemphasized or even perverted; and a school for blind youth forms no exception.

A THIRD EXPERIMENT ON TYPE SLATES

FRIEDA KIEFER MERRY, Ph.D.

Summary of Other Investigations

Previous issues of *The Teachers Forum*[1] have reported the results of a preliminary experiment upon four children, undertaken to determine the best technique for an experimental approach in investigating the merits of type slates; also a second study upon sixteen pupils who were taught to use both the Taylor and Cubarithme slates.

In the preliminary experiment only slates employing the principle of relative position of type in forming numbers were used. They were the Taylor Slate and the T. V. L. Slate. The Taylor Slate is composed of a number of octagonally-shaped cells into which pieces of type are fitted. Each of these type pieces is made with a bar on one end and two dots on the other to form the numbers one to zero by their relative positions in the cells. The T. V. L. Slate is composed of square cells into which two different kinds of type fit. One piece of type contains a T which forms numbers 1, 2, 3, and 4 when turned in different positions in the cells. The other end of this type contains a V which makes the numbers 5, 6, 7, and 8. Another piece of type contains an L (9) on one end, while the other end is a blank (0).

In the second investigation it was decided to retain the Taylor Slate and to supplement it with the Cubarithme Slate as recommended by the Educational Advisory Committee of the American Foundation for the Blind. The Cubarithme Slate (as adapted by Brannan) consists of a bakelite board of square cells into which cubes, bearing braille characters, are fitted. Thus, a comparison could be made between a slate using relative position as its principle with a braille slate not depending upon position alone to determine its numbers.

The classroom teachers were instructed to devote fifteen minutes daily, five days a week, to practice with the slates to determine (1) facility in handling, (2) accuracy and legibility, and (3) economy of time in inserting and lifting out the type. The parallel group technique was used, the boys being instructed on the Taylor Slates for the first half of the year, while the girls were introduced to the Cubarithme Slate. The groups were then reversed: that is, those children who were taught the Taylor Slate learned the Cubarithme and those beginning with the Cubarithme were transferred to the Taylor. Tests were given at specified times and the results in general showed a seemingly greater accuracy in the use of the Cubarithme Slate, although the Taylor Slate seemed faster to manipulate. With so few cases, however, no statistically significant generalizations about the merits of these type slates were warranted.

The Third Experiment

Subjects. The third investigation was made upon eight boys ranging in age from 9 years 3 months to 12 years 6 months. Their mental ages extended from 8 years 1 month to 14 years 11 months, while their I. Q.'s ranged from 65 to 137. Since two of the boys had some useful vision, goggles were used in testing them.

Procedure. Since we had difficulty in equating parallel groups in the second experiment the rotation procedure was substituted in the present investigation, and proved to be more satisfactory. The boys had equal instruction upon both slates, using the Taylor one day and the Cubarithme the next, or alternating within the lesson period. The work was conducted under ordinary

[1] Merry, Frieda K., "A Preliminary Experiment with Two Arithmetic Type Slates," *The Teachers Forum*, II, March 1930, pp. 14-15.
———"Another Experiment on Type Slates," *The Teachers Forum*, IV, September 1931, pp. 14-15.

classroom conditions by the teacher, Miss Ethel D. Evans. A detailed account of all the work was made by Miss Evans, and, in general, covered the following:

1. Two weeks were spent in familiarizing the children with the setting of type in their slates. In teaching the Taylor Slate the "straight" positions were first given (0-2-4-6-8), followed by the "slant" positions (1-3-5-7-9). No particular order was used in teaching the Cubarithme.

2. One week was devoted to placing the numbers 1-25 in rows and then in columns.

3. This was followed by three weeks' drill in column formation.

   a. *Odd* numbers to 100 were set in the slates in column form, then *even* numbers to 100.

   b. Making columns by 5's and 10's, and 3's and 7's followed. The more rapid pupils wrote 6's, also.

4. Between November 9th and December 1st the slate work was discontinued. Oral tests in addition combinations, and work with fraction balls occupied this period.

5. The following two weeks were given to practice in writing columns of two-place numbers ("ragged" columns with the right-hand side "smooth"). The children were told about the column "law" but the reason was not given. They exchanged slates and corrected each other's work.

6. The making of oral "change" problems and review of fractions was given from December 14th to the Christmas recess.

7. The first week in January was spent in placing simple addition combinations upon the slates as, for example: 4 / 8 / 12. Emphasis was placed upon keeping the right side "smooth."

8. One week was devoted to setting columns of numbers (dictated), from 1 to 100, one- and two-place numbers being interspersed. The following "removal" game was played with five numbers in a column, increasing to ten:

"Find your largest number. As soon as you have found it raise your hand. When told that you are correct, remove that number and hunt for the next largest," etc. The first one to clear his slate was pronounced the winner.

9. The next eight weeks were devoted to practice in placing numbers.

   a. The following columns were set across the top of the slate:

      100 200 300 400 500

      After this was done each column was built downward, one number at a time through 20.

   b. Drill was given in writing to 1000 by 50's, 25's, 10's in column form and to review of numbers 100-120, 200-220, etc., giving these numbers out of rotation.

   c. Practice was given in writing columns of three-place numbers from dictation and by the "removal" game, proceeding from the largest down to the smallest number, and vice versa.

   d. Columns were made of two- and three-place numbers occurring irregularly.

10. In preparation for teaching four-place numbers the children spent two weeks sorting small splints into bundles of 10's, 100's, and 1000's.

11. Three weeks (two days a week) were devoted to the placing of simple addition and subtraction combinations in problem form.

The following tests were devised and administered by the Department of Special Studies at periods when the children showed they were ready for an examination:

1. Placing one- and two-place numbers as an irregular column.

2. Placing odd and even numbers through 50 in column form.

3 and 4. Setting three-place numbers in column form.

5. Reading three-place numbers in column form.

6. Reading one-, two-, and three-place numbers written in irregular column form based upon an analysis of errors in Test 5.
7. Repetition of Test 5.
8. Repetition of Test 6.
9. Placing one-, two-, three-, and four-place numbers in irregular columns.
10. Placing simple combinations (based upon their difficulty for blind children)[2] as problems without answers.

The Results

Results of these ten tests based upon the experiment herein outlined show that the Cubarithme Slate excelled in speed in 56 instances as contrasted to 23 for the Taylor. Accuracy, also, favored the Cubarithme 37 to 12.

Of the eight children in this study *six* preferred the Taylor Slate and only *two* liked the Cubarithme better, despite the fact that the latter slate proved superior for this group of children. The preference for the Taylor seemed to be based upon the fact that "the types do not jump out." One child who chose the Cubarithme said he could work faster with it because it is in braille and "we read braille all the time."

An analysis of the mistakes made by the pupils in this experiment shows that errors in *reading* numbers exceeded errors in *placing* numbers for both slates. On the Taylor Slate there were seven times more *reading* errors than *placing* errors, but on the Cubarithme there were only twice as many *reading* errors as *placing* errors.

The errors in reading numbers on the Taylor Slate in the order of their most frequent occurrence were: slant positions (odd numbers); those probably due to carelessness; transpositions, especially *2* and *6*; confusing dots with bars and vice versa; and finally straight positions.

The reading errors occurring most commonly upon the Cubarithme Slate were: transpositions, especially *4* and *6*, and those attributed to carelessness. Other types of mistakes were negligible.

In placing numbers upon the Taylor Slate careless errors predominated. This was true, also, for the Cubarithme, although transpositions (*4* and *6* primarily) were quite frequent.

Conclusions

The use of so few children in these experiments makes generalization unjustifiable as to whether the Cubarithme or Taylor Slate is better adapted to the use of all blind children.

Results of the last two investigations are contradictory. This, however, is not surprising in view of the small groups and the difference in techniques used. It is hoped, however, that they will be suggestive to other teachers who may undertake more extensive experimentation upon this problem.

The objection to the movability of the Cubarithme type pieces and the difficulty experienced in *reading* numbers on the Taylor Slate are significant facts and should be called to the attention of the manufacturers of these appliances.

For the benefit of interested readers who do not have access to the published accounts of previous articles the comments of children and teachers familiar with both slates are repeated:

Cubarithme Slate

Favorable

1. There is no necessity for learning a new code system, as the type bears braille characters.
2. The type slate is light in weight and, therefore, easy to carry.

Adverse

1. The cube is too large for the span on the finger tips.
2. The cubes turn over at the slightest movement, the numbers are changed, and inaccuracy results.
3. The looseness of the cubes within the

(*Continued on Page 52*)

[2] Consult *The Teachers Forum*, III, November 1930, pp. 8-19.

FIRST STEPS IN BRAILLE MUSIC NOTATION

Marie E. Sprengel

Two small volumes entitled "First Steps in Braille Music Notation" have been prepared by the writer for use in the Braille Classes of the Detroit Public Schools. The books present a method of procedure which is the result of several years of careful study and pedagogical experience with young children in these classes.

In acquainting and familiarizing the very young pupil with the basic principles of notation, the twelve lessons compiled under the above title form an easy and comprehensive series of progressive steps which, when completed, enable the child to enjoy considerable independence in his reading at the piano keyboard.

For the use of this material, group work offers an excellent opportunity. With small groups of children in the second or third grade, classes in primary music may be formed, each class being organized, preferably on the basis of the children's intelligence quotients or learning ability. Each group should meet for at least two forty-five minute periods a week and, where it is possible, daily sessions are advocated.

Commencing with the first lesson, it is intended that the work in notation shall be extensively correlated with rhythm work—children clapping, or beating time with rhythm sticks, thus establishing definite *feeling* for a strongly accented beat of measure. Here, also, is a splendid opportunity for the introduction of the rhythm band or toy symphony. Emphasis should be placed upon ear training—pupils being taught to recognize high and low pitch, complete and incomplete scales, the distinction between arpeggios and scales, simple harmonic intervals and triads, etc. Another phase—this being based upon the easier major keys—develops the child's ability to listen to a scale intelligently and to recognize its isolated tones. A part of each lesson may be devoted to finger, hand, and arm gymnastics. Finally, pupils should become thoroughly familiar with the piano keyboard and, when sufficient knowledge of notation has been acquired, some reading and memorizing should be done under supervision of the instructor. With pupils of average ability this preliminary course can be satisfactorily covered during one school year.

"First Steps" is written in braille, full spelling, and following is an outline of the material presented therein:

REMARKS—Brief explanation of content of text.

LESSON I—The Music Alphabet—Short poem which acquaints child with letter names of keys; definition of *tone* and *note;* the seven braille notes (these written as eighths, however, without recognition of value); dictation exercises; reading exercises.

LESSON II—Note Values—Short poem explaining note values; explanation of the term, *value;* whole notes, half notes, quarter notes, eighth notes; dictation exercises; reading exercises.

LESSON III—Measure, Bar, Double Bar—Explanation of the terms, *measure, bar,* and *double bar;* written exercises based upon formation of measures; reading exercises.

LESSON IV—The Hyphen; Octaves—Explanation of the use of the hyphen; explanation of the piano keyboard; octave signs (their position in relation to notes); dictation exercises; reading exercises.

LESSON V—Time Signatures—Definition of *rhythm;* explanation of time signatures; definition and illustration of two-four, three-four, four-four, three-eight, four-eight, and six-eight time; written exercises (grouping of notes into measures ac-

cording to specific time signatures); reading exercises.

LESSON VI — Fingering — Characters used to indicate fingering (their position in relation to notes); dictation exercises; reading exercises.

LESSON VII—Rests—Definition of the term, *rest;* explanation of rests; characters employed as rests; dictation exercises; reading exercises.

LESSON VIII—Dotted Notes—Explanation and illustration of the dot; dictation exercises; reading exercises.

LESSON IX—Right Hand, Left Hand —Characters indicating right and left hand; dictation exercises; reading exercises.

LESSON X—Intervals—Definition of the term, *interval;* definition of *harmonic interval* and *melodic interval;* characters indicating harmonic intervals; illustration of harmonic intervals from C; dictation exercises; reading exercises.

LESSON XI—Half Step, Whole Step; Sharps, Flats, Naturals—Definition of the terms, *sharp, flat,* and *natural;* aids in the location of sharped and flatted tones on the piano keyboard; drills for memorizing the sharp, flat, and natural signs; use of the natural sign; reading exercises.

LESSON XII—Supplementary Signs—This lesson introduces a variety of characters which the child will encounter in his early reading experience at the keyboard. Each character is explained and illustrated, and the lesson is concluded with two short piano solos.

Following Lesson XII a few pages are devoted to:

RULES FOR THE USE OF OCTAVE SIGNS—Five rules with illustrations.

TABLE OF KEY SIGNATURES—The Major Scales.

A LITTLE DICTIONARY OF ABBREVIATED EXPRESSIONS — Definitions of twenty-one terms, as: *crescendo, forte,* etc.

Through the courtesy of the Junior League of Detroit who have made possible the stereotyping of the two volumes outlined; also through the cooperation of Louis W. Rodenberg, printer, free sample copies are now available and may be procured, on application, by any instructors of blind children who may be interested in examining this material. Address communications to Louis W. Rodenberg, Printing Department, School for Blind, Jacksonville, Illinois.

Bibliography Number 11, entitled "Good References on Physical Education and Recreation for Exceptional Children," compiled by Marie M. Ready, Associate Specialist in Recreation, and issued by the Office of Education, U. S. Department of the Interior, should be of interest to *Forum* readers. Two pages of the pamphlet are devoted to articles regarding physical education and recreation for blind children. This bibliography may be obtained free of charge by writing to Marie M. Ready, Associate Specialist in Recreation, Office of Education, U. S. Department of the Interior, Washington, D. C. Only a limited number are available for distribution.

(*Continued from Page 50*)

cells does not warrant the stacking of slates containing unfinished work.

Taylor Slate

Favorable

1. The type pieces seem to be of a convenient size for quick work.

2. After the child has become accustomed to the use of this slate, the instability of the type ceases to distract his attention.

Adverse

1. The children must learn an arbitrary system of type positions to determine the various numbers until sufficient practice makes them automatic.

2. The slate itself is light in weight, but the pieces of type are heavy and awkward to carry around.

WAYS AND MEANS OF TEACHING GEOMETRY TO BLIND STUDENTS

PART II

A. D. Hurst

Many teachers of mathematics believe that it is impossible for totally blind students to draw the customary figures for plane geometry. Such an idea, however, is erroneous. Students with no vision at all are able to draw these figures as accurately and almost as quickly as the average seeing student. In fact, the students at our school do not omit any of the propositions or problems merely because they are difficult to draw or to learn. It is true that we do not discuss every problem in our text, Wentworth-Smith's *Plane Geometry;* lack of time forbids this.

Often when I say that totally blind students are able to draw accurately the customary geometric figures, someone replies that they do so with a machine of some kind; perhaps turn a handle and the figures come forth. This, however, is not the case. There is no trick or sleight of hand performance connected with their drawing. The amount of sight a student may have also has nothing to do with his ability to carry the work. In fact, those with no sight at all make just as accurate drawings—and make them just as quickly—as do the students with partial vision.

Our students use practically the same instruments for drawing their geometric figures that any seeing person would use if he were to do the same work. It is true that our instruments have some modifications from those used by seeing pupils, but these changes are far less radical than most people would think. Perhaps one of the greatest differences between the two types of instruments, those used by the blind and those used by the seeing, is in the type of pencil used. Our students draw lines with an instrument that will make them tangible. This of course necessitates making an impression on the drawing paper. It is not sufficient, however, merely to make any sort of impression. The line must be in the right place, have the desired length, make the proper angle with other lines, and have the necessary degree of curvature in case a curved line is desired. How the above conditions are met, both for the solid lines and the dotted lines representing construction, along with a brief description of our drawing instruments, will be explained in the remaining part of this paper.

The drawing instruments used by our students are eight in number, and are listed as follows:

1. Drawing board
2. Compass
3. "Dotted line" stylus
4. Ruler
5. Ordinary stylus for writing
6. Four sharp pointers to take the place of thumb tacks
7. Protractor
8. Drawing paper

1. *Drawing board.* The drawing board used by our students is different from the kind used by draftsmen. We use a piece of upson board, often called beaver board, eight and a half by eleven inches. This material may be bought at any store where interior finishing materials are sold. It costs from three to four cents per square foot, and is usually sold in strips about four by six feet. With the aid of a carpenter's square and saw, anyone with a working knowledge of carpenters' tools may easily cut the upson board into drawing boards of the desired dimensions.

Someone may wonder just why this material is used for drawing boards instead

of a different kind. The reason is simple. The first point to be considered in any drawing by blind pupils is to make the figures tangible. Certainly no figure may be drawn accurately unless it is tangible. To make the figures available to the sense of touch, it is necessary to use a drawing board that is neither too hard nor too soft. If the board is too soft, the drawing paper will be cut or torn by the drawing instrument, and if too hard, the lines will lack proper tangibility. Therefore, it is necessary to use a board of such a texture as will allow the proper impression to be made on the paper. Drawing boards made from different materials have been tried, but the one described above is the most satisfactory yet found. The greatest objection to our drawing boards is that, after a few weeks' use, they become full of holes and must be replaced with new ones.

2. *Compass.* There are many types of compasses made for high school and college drawing. Several different kinds have been tried in our classes, but only one seems to be satisfactory. This particular compass is made by the Eagle Pencil Co., New York, No. 855, and sells for twenty-five cents. The American Pencil Co., New York, also makes a similar compass, No. 1577. The main trouble with practically all compasses is that the radius will change one way or another, without the student's knowledge. The result of this is that the figure is drawn incorrectly. It may be that with some of the compasses the radius will change only a fraction of an inch. This slight change, however, is sufficient to make a variation that will result in an incorrect figure.

After the compass has been selected, it must be modified in the following way. The pencil ordinarily found in the compass must be removed and a stylus inserted in its place. Ordinarily this stylus must be fitted to the compass by the instructor. This is easily done, however, by working off the handle of an ordinary writing stylus until it becomes the size of a pencil. It can then be easily inserted in the pencil's place.

One other change should now be made in the stylus before it will give the best results. Its metal point should be filed or ground off until it becomes about as sharp as the pivot point of the compass. It is not absolutely necessary to make this change, but if the metal point is sharpened, two advantages are brought about. First, it will lessen the physical strain on the student's hand, and second, the lines thus made will be more distinct and easier to work with.

3. *"Dotted line" stylus.* This instrument takes the place of a pencil. It may be bought at any good book store for twenty-five cents, or it may be made with very little trouble. In case it is being bought, one should call for the same type of stylus that is used with a mimeograph machine.

As to the home-made styli, the writer made six of these instruments within an hour, at an expense of one cent each. The only materials needed are a few small, slender nails about one inch long and a piece of reed, the size of a pencil, such as is used in the basketry department of any school for the blind. Cut the reed in pieces about five inches long; drive the nail about half-way to its head in one end of the reed, and then either file or grind a sharp point on the nail in place of the head. The stylus is then ready for use. Our class has used only the home-made styli this year, and they have found them very satisfactory. It should be borne in mind, however, that this type of stylus *is to be used in making dotted lines only,* as the sharp point will cut the stationery. A different stylus will be used for drawing "solid" lines.

4. *Ruler.* In drawing a straight line every person uses a ruler of some kind. The rulers used by our students are not unlike those used by other people. Sometimes the twelve- or fifteen-inch rulers are more convenient to work with if they are cut in two. Also a ruler seven or eight inches long is usually long enough to draw

any line that will be needed. Small notches should be cut on one side of the ruler at intervals of one-half inch so that the students may have a convenient method of setting the compass with the desired radius, or of drawing a line of a certain length.

5. *Ordinary writing stylus.* It is usually customary for the "Given" in geometric work to be represented by solid lines, and to represent the constructed lines by a series of dots. In case the customary method is used, a student may easily make the solid lines by placing the edge of the ruler where the line is to be drawn and then drawing the ordinary stylus across the paper while holding it against the edge of the ruler. As the stylus is drawn across the page, it should be held at an angle of about 40 degrees to the page. This will prevent the stylus from tearing the paper. Sometimes it is necessary to draw the stylus three or four times in the same place in order to make the line as distinct and tangible as is desired. One should also be sure to hold the ruler firmly against the drawing paper, otherwise it will move and several lines will be made.

6. *Four sharp pointers.* Perhaps the best description of these instruments is that they are thumb tacks with long handles and long shanks. The purpose of the handle is to make them more convenient for the blind to use. Aside from this thumb tacks are not easy for the blind to locate when they are lost. Each student should have four of these instruments.

So far as I know, these sharp pointers can not be bought ready for use, but fortunately the ordinary writing stylus may be easily and quickly changed into exactly what is wanted by merely filing or grinding off the metal point so that it may easily be pressed into the drawing board at any desired point. Their points can not be made too sharp.

These sharp pointers are used for two different things. First, it takes at least two of them to hold the stationery on the drawing board, one in each of the two top corners after the paper has been placed straight on the board. Second, the other two pointers will be used from time to time to hold the strategic points in the figure that is being drawn. By strategic points are meant the intersection of two arcs, the two ends of a given line, the vertex of an angle, and the like.

A simple figure will illustrate. Suppose the problem is to bisect a given line. In this case a definite line AB is given. In making the construction, take A as a center and with a convenient radius describe an arc above and below AB. Then use B as a center and, with the same radius, describe two other arcs that will intersect the two drawn first. Now we have two arcs intersecting above AB and two below. In order to complete the drawing, a line must be drawn from one of these intersections to the other. But how is a blind student to do this? The line is easily drawn. All that is necessary is to locate the intersection of these arcs and stick one of the sharp pointers through the paper and into the drawing board until it becomes stationary. Treat the other pair of intersecting arcs in exactly the same manner. Now the two intersections— the strategic points—are definitely located. All that remains to be done is to place the ruler against the two pointers and draw the dotted line along the edge of the ruler with the stylus. The figure is now complete.

Someone may suggest that blind pupils are unable to locate the intersection of these arcs, when the lines or dots forming them are no larger than ordinary pencil points. Frankly, the students themselves think they are unable to locate such points when they try for the first time. After a day or two of practice, however, they make no more complaint about this feature of the drawing. With another day or two of practice, the students have learned to "feel" the intersections, ends of lines, etc., with the metal

pointer itself. If this method does not suffice—as is frequently the case—they may easily raise one edge of the drawing paper high enough to place one hand or finger on the under side of the page where the line is and put the sharp pointer on the other side. In this manner the students practically always locate the exact point.

There are also other tricks that students adopt to assist themselves in locating points of this kind. One of them follows. Suppose a student is going to draw an arc across a solid line, as will be necessary when erecting a perpendicular at a given point in a given line. Let us consider the first case of this problem; namely, when the given point is not at the end of the line. Here, the given point will be used as a center and, with a convenient radius, an arc will be described on either side of the given point that will cross the given line. If, after the pivot point of the compass has been located, and before any arcs have been made, the free end of the compass is lightly dragged across the line where the arc is to be made, one may very easily sense when the free end of the compass strikes the given embossed line. Other methods to help in locating intersections will develop through practice.

7. *Protractor.* So far as the writer knows, protractors that may be used by the blind are not for sale. Fortunately again they are not difficult to make. The best material so far used for making them is the above mentioned upson board. An ordinary five-inch draftsman's protractor seems to be a good model to work from. In order to make them, from four to six thicknesses of upson board should be nailed together with two small nails. The model protractor should then be placed on the upson board and a pencil mark made around it. A band saw will be necessary, in order to saw the curved surface. After the semi-circles have been sawed, small notches should be cut in the curved side at intervals of five degrees. Another small notch the size of the metal in a stylus should also be cut half-way between the extremities of the diameter.

Beginning about half an inch on each side of the notch just made, and ending about half or a quarter of an inch from the ends of the diameter, a scallop should be made in the protractor exactly as deep as the notch at the midpoint. If this is not done, the diameter will not exactly coincide with the base line because of the notch that has been made at the midpoint. At the same time, if a tangible point is not made at the midpoint of the diameter, blind students will have no means of distinguishing this very necessary point. The protractor is now ready to be shellacked. The purpose of shellacking is to make it look better, and to help in keeping it clean.

When one is ready to use the protractor, the place for the vertex of the angle should be located and held with one of the sharp pointers by pressing it into the drawing board. The notch at the midpoint of the diameter should now be placed against this pointer and the protractor turned about until the diameter, or a portion of it, coincides with the base line which contains the vertex of the angle that is to be drawn. In order to prevent the protractor from changing this desired position, a second pointer should now be placed against the diameter of the protractor about half or two-thirds of the distance between the midpoint of the diameter and the end of the arc. If the protractor is in the correct position, this second pointer will be in the base line as the pointer is made stationary in the drawing board. When this is done, count off the number of degrees or notches necessary to give the desired angle, and hold the point by using one of the sharp pointers in the usual way. Now remove the protractor (do not remove the pointers) and draw a line from the vertex pointer to each of the other two pointers. The desired angle has been made.

Of course blind students are unable to

draw angles to the exact degree or minute, but for all practical purposes if an angle is not more than two or three degrees larger or smaller than is desired, it serves its purpose very well. With two days' practice, students are able to draw any angle for which their work calls. It seems to be a good idea to begin the work with the protractor by drawing squares. Then branch out on parallelograms with oblique angles.

A protractor is not absolutely necessary in order for blind students to be able to draw the figures. In fact, our students are not allowed to use the protractor until they have first learned how to draw figures accurately without it. Thus if it is not convenient for the school to make these instruments, this should in no way interfere with the students drawing the desired figures.

8. *Drawing paper.* The last part of our drawing equipment is the drawing paper. For this we use the ordinary stationery that is used in writing braille. In order to economize, we sometimes have the regular sheets cut in halves, as half of an ordinary sheet is large enough for the majority of the figures.

The suggestions offered in this paper may seem a bit complicated, but if they are tried one will find that they are not difficult to carry out. Readers may rest assured that this plan for blind students to draw geometric figures will work. It has been tried four successive years in our school and I expect to use it as long as I teach geometry to the blind. The students who have used it say that they like it for two reasons. First, without some such scheme the construction problems in geometry would have very little meaning. Second, it is something new to our students and is most fascinating to some of them. They are also able to carry this work over into other studies, such as their map work in geography. My own conviction is that our drawing work contributes largely toward causing the study of geometry to be as real and as meaningful to the blind as it is to the seeing.

If anyone is interested in seeing this equipment a complete set of drawing instruments and a few sample figures may be borrowed from the Librarian of the American Foundation for the Blind, 125 East 46th Street, New York City.

THE HANDICAPPED CHILD

The report of the Committee on the Physically and Mentally Handicapped, of the White House Conference on Child Health and Protection, will soon be available in book form under the title *The Handicapped Child.* It is to be published by the Century Company and will probably be issued some time early this spring. The price has not yet been established.

The book will consist of seven chapters entitled "Deaf and Hard of Hearing." "Visually Handicapped," "The Crippled," "Internal Conditions" (dealing with tuberculosis, heart disease, and intestinal parasites), "Problems of Mental Health," "Problems of Mental Deficiency," and "Vocational Adjustment."

The chapter on the visually handicapped will be of special interest to instructors of blind children. Robert B. Irwin, Executive Director, American Foundation for the Blind, acted as chairman of the sub-committee responsible for the preparation of this particular report, while Kathryn Maxfield served as research secretary. Other members of the committee were: Dr. Edward E. Allen, Superintendent Emeritus, Perkins Institution; Dr. Olin H. Burritt, Principal, The Pennsylvania Institution for the Instruction of the Blind; Mrs. Winifred Hathaway, Associate Director, National Society for the Prevention of Blindness; Dr. B. Franklin Royer, at that time Medical Director, National Society for the Prevention of Blindness.

This chapter deals with the care, education, and training of blind children. It first outlines the extent of the problem; then takes up the subject of health provisions

and their adequacy, including such topics as, Their Importance, General Provisions, Pre-school Children, Physical Examinations, Treatment of Additional Handicaps, and a Constructive Health Program. The following educational provisions are then discussed: compulsory regulation, the pre-school child, residential schools, braille day school classes, higher education, special educational appliances, and publications.

A section of this chapter is also devoted to the care and training of children with seriously defective vision, including such topics as prevention of blindness, conservation of vision, causes of blindness among children, and community provisions for medical assistance.

The remainder of the chapter treats of the problem of the visually handicapped with additional disabilities including a discussion of such combinations of handicaps as the blind-feebleminded, the deaf-blind, the crippled-blind, and the emotionally unstable blind. The chapter closes with several recommendations as to future procedures.

The book will be a valuable addition to the series which is an outgrowth of the White House Conference and should find a place in libraries of schools and individuals interested in the welfare of the blind.

The widespread influence of the White House Conference on Child Health and Protection is shown in the November-December issue of the "White House Conference Happenings." Thirty state conferences have been held since the general meeting in 1930; sixteen in 1931 and fourteen in 1932, with three already scheduled for 1933. Active follow-up work, aside from state conferences, has been carried on in most of the fifteen remaining states.

The current issue of this pamphlet is the last of the series, as the central office of the Conference closed on January first. Future correspondence and communications should be addressed to the Chairman, Dr. Ray Lyman Wilbur, Secretary of the Interior, Washington, D. C.

THE TEACHERS FORUM
for
Instructors of Blind Children

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PROGRESSIVE EDUCATION

Should institutional schools for the blind try to follow in their entirety the methods of instruction used in the public schools or should they try to evolve their own, patterning them after public school procedures where practicable but also adopting the methods used in the best private schools? On the whole, methods of instruction in the public schools must of necessity be planned for the average child. The result is that teachers, principals and superintendents, are inclined to talk in general terms about what sixth grade children are able to do in arithmetic, or senior high school pupils can absorb in college preparatory literature, while adequate provision seldom is made for the unusual child, especially if he is superior mentally.

In our institutional schools, however, the unusual pupil is far from rare. It is a fact that many of the pupils in any school for the blind need specialized attention, because of the presence of one or more major handicaps aside from blindness. The teacher must do her best to meet the needs of these children.

Because each school for the blind must

give this individual consideration to its pupils the wise teacher will turn to the best private schools which have been able to introduce real progressive methods in education. The chief aim of most progressive education is that of considering the welfare of each individual child rather than of having all children in large groups. Such organizations as the Progressive Education Association or some of the private school associations should have many ideas to offer educators in schools for the blind. Although it often seems as though the most desirable suggestions involve large expenditures of money, nevertheless, much can be done without increasing the expenses of the institutions materially. In the long run, it is cheaper to give such thorough attention to the needs of each child—for he will graduate one, two, or even three years sooner—than it is to pay for his longer stay at the school. This point was brought out by Mr. W. E. Allen, Superintendent of the Texas School, in his article on "Opportunity and Adjustment Rooms of the Texas School for the Blind" in *The Teachers Forum* for November 1931.

GARDENING IN SCHOOLS FOR THE BLIND

Ever since the War there has been developing in England an interest in gardening among the adult blind. Whether anything has been done to teach gardening to pupils in English schools for the blind, we do not know. Certainly very little attention has been paid to it in our own institutional or day school classes. Yet through what better medium is it possible for young blind people to develop the knowledge and love of nature which comes more easily through the eye to other people?

In 1914, Mr. A. G. Cowgill, Principal of the Boys' School at Overbrook, had an article on their school gardens in the *Outlook for the Blind,* Volume VIII, pp. 144-149. Little has been written on the subject since that time and, so far as we know, equally little has been done.

On the theory that through actual experience in planting and caring for garden products such as flowers, fruits and vegetables, blind and partially seeing pupils will not only acquire a better concept of nature than they could ever gain in a formal nature study class, Perkins Institution is introducing two courses in gardening. As a result of tentative experiments last year, the work this spring will be divided into two courses, the boundaries of which will be very elastic. The first will be a theoretical course in which the pupils will work mostly in the class room and in the greenhouse. The second will take the boys into the gardens at Perkins and will keep them there throughout the summer. In other words, they will work as actual assistant gardeners.

The instructor of these courses is Mr. Nelson Coon, the Superintendent of Buildings and Grounds. Mr. Coon had made a reputation for himself as a landscape gardener before coming to Perkins. In his own gardens he has already had experience in training young people, and therefore has a background of knowledge regarding what can be done by those who see.

Whether there will prove to be any vocational possibilities for our partially seeing boys and girls in this new venture remains to be seen.

The Editor would appreciate hearing from any superintendent or teacher who has tried a similar experiment in gardening for blind children.

Although we do our best to avoid references to individuals, because of the limited amount of space in this periodical, we nevertheless feel that attention should be called to the many changes which have taken place in the superintendencies of schools for the blind. Information regarding these changes will be found in the last two issues of the *Outlook for the Blind* as well as in the issue that is pending.

EXCERPTS

The following excerpts are taken from pages 141 to 143 of the book *From Homer to Helen Keller,* by Dr. R. S. French, Principal of the California School for the Blind. These quotations are indicative of the type of material contained in the book, which will be of value to teachers of the blind.

"Whenever possible the actual materials and objects under study should be brought to the classroom and examined. Why study and talk *about* a beet when a beet can be taken fresh from the garden and examined, tap-root and all, by direct contact? The fingers of the blind are fairly aching for reality, and in many schools where the deadly classroom method has prevailed—and still prevails to a great extent—many a boy or girl has learned much by original investigation out from under the eye of an overofficious teacher. The boy who climbed a blackwood sapling and tried to "teeter" on it, found that in its early stages of development this tree is very brittle; in spite of the slight bruises he received, he learned a valuable lesson; he had acquired reality.

"Too much emphasis cannot be laid on the development of the kinesthetic senses. In the best schools this is recognized as a valuable pedagogical fact, but like too many other pedagogical facts, it remains safely stored for the most part; sacredly guarded, not used. There is, indeed, an increasing use of gymnastics, rhythmics and games, fully theorized, and frequently carried out to the immense satisfaction—of the teacher. But of actual discovery of the world, actual expeditions into the unknown, through *use* of the muscles, there is very, very little. Blind boys are actually forbidden to climb trees, it is *so* dangerous. A blind person crossing the street is instantly aided by some charitable person, and when he spurns assistance, he is considered rude and ungrateful. Not that blind children are to be allowed to run wild—their spontaneity is to be encouraged and widely developed; their self-activity trained into something fine, with a minimum of self-consciousness and usually under the watchful eye of an attendant."

. . . . . .

"To revert, in conclusion, to the general topic of tactual appliances, we may safely say that there is no longer any excuse for not giving the blind child the advantages of active study through direct contact with real things or with good representations of them in concrete form. That the old attitude still persists towards the "empty vessels" of child minds, there is ample evidence even in the best schools. On the whole music is best taught of all the subjects, and in this field the blind have much to teach the seeing. In the German and Austrian schools particularly there has been a long continued and scientific development of the teaching of the *Realien.* American schools still have much to learn."

Our Contributors

Miss Ruth L. Farley is a teacher of an experimental class for gifted blind children in the Los Angeles Public Schools. We shall hope to hear more from her in the future.

Mr. A. D. Hurst, teacher of mathematics and science in the North Carolina School for the Blind, finishes in this issue his paper on the teaching of geometry.

Miss Marie E. Sprengel, a graduate of the Michigan School for the Blind, teaches piano and braille music notation to blind children in the Detroit Public Schools.

Dr. H. L. Hilgartner and Dr. Louis Kirk, Oculist and Physician respectively of the Texas School for the Blind, are making important contributions to the medical welfare of visually handicapped children.

Dr. Frieda Kiefer Merry presents here the final report of her experiments on the relative merits of different type slates. The work was done while she was Supervisor of the Department of Special Studies at Perkins Institution.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. V MARCH, 1933 No. 4

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THE DICTAPHONE AS AN AID IN THE INSTRUCTION OF CHILDREN WITH DEFECTIVE VISION

GEORGE F. MEYER

The mere mention of the dictaphone suggests to those interested in the education of the blind the service which this machine renders in the stenographic field and the possibilities which its use affords in enabling blind persons to compete for stenographic positions. While I have always been a believer in dictaphone work as a field of endeavor for capable blind persons, this article will treat only indirectly of this use for the dictaphone. I shall discuss rather the dictaphone as an educational tool of service alike to the teacher and to the pupil in meeting the educational needs of children with defective vision.

The experience I shall relate is from the standpoint of the sight saving and braille classes in a large public school system, yet several uses to which we have put the dictaphone are, I am sure, of such a fundamental nature as to be at least suggestive to the teacher who works under far different conditions.

The word "dictaphone" in this article is used in its generic sense with no reference to any particular make of machine.

The use of the dictaphone as an educational aid in the instruction of blind and partially-seeing children is no new development in the Minneapolis Public School System. Our first machine was purchased in the spring of 1920, near the close of the first year in which the local braille and sight saving classes were established. Machines have been added from time to time until we have at present four as a part of the equipment of our nine classes.

Like any other educational device of merit, the dictaphone requires for its effective use the conviction on the part of the teacher that it can be of definite service to her. To attempt to superimpose this conviction upon her is like trying to persuade one of our fine old-fashioned cooks that she should abandon her well-tried guessing method of preparing viands for the more certain method of cooking by recipe and accurate measurement; it is like trying to persuade the rough and ready farmer that bookkeeping and farm planning, as procedures for him, actually pay.

Proper use of the dictating machine in the classroom means that the teacher must plan time and material for dictation; that pupils must be thrown upon their own responsibility in the preparation of their work; and finally, that both subject and pupil must be taken into account in determining whether the dictaphone can be of service. For the average teacher it means the changing of long-established and well-tried methods and procedures for accomplishing certain definite objectives.

So it has been in our own system. The type, degree, and scope of service rendered by our dictaphones has varied from year to year and from class to class, increasing as its possibilities became more widely appreciated and understood by both the teacher and the pupils.

In 1930 it seemed desirable that we add to our dictaphone equipment. In view of frequent fluctuations in the demand for these machines from year to year, I felt the need of evidence that the new machines would actually save time for the teacher and the pupil to a sufficient degree to warrant their purchase.

As a result, with the cooperation of a local dealer new equipment was installed in one of our junior-senior high school classes and a painstaking record kept of the amount and nature of the use made of these machines. This record gave convincing proof of economy through time saved by the teacher and by readers, not to mention the

even more important advantages afforded pupils in giving them more general access to recorded reading material and other types of dictation service.

Unfortunately these records, of a more practical than scientific nature, having accomplished their purpose are not now available for detailed reference. However, the machines have continued the same general type of service and a word here concerning the varied uses to which they have been put may be helpful to those interested in such procedure.

Miss Kathern Gruber, sight saving teacher at the Roosevelt High School, has given much thought to the use of the dictaphone and in many instances has worked out a detailed technique for its most efficient use. Much of the material presented in the paragraphs to follow is drawn directly from observations made of the machine's use under her direction.

For the benefit of those who may not be acquainted with the procedure of public school classes for the blind and partially-seeing, a word of explanation may be in order. These children attend the regular classes in most of the subjects of the grade and high school. They prepare their work under the direction of the sight saving or braille teacher who reads their lessons and copies or dictates subject matter necessary for their use. Most subject matter is either of a current nature or is too new to be made available in braille or large type: hence much reading is necessary. In the high school we have found it desirable to employ student readers for much of the routine reading for blind and partially-seeing pupils.

With this background it can be seen that much time is absorbed in dictation or reading to make up for the fact that the pupil cannot have the material he needs under his fingers or before his eyes.

Perhaps the foremost use of the dictaphone has been in the recording of reading matter which would normally have to be read several times to pupils in different class sections or having different study periods. In these instances one reading into the dictaphone not only serves every pupil interested in such matter but pupils may repeat difficult material as often as they choose; may take notes at will; may study when they choose—even after school hours; may review from time to time as occasion requires or make up work they have missed through illness—all this at a minimum expense and little, if any, inconvenience to the teacher.

One or more pupils may listen at a time, as they choose. The machine is slowed down to a minimum speed so as to conserve record space. Naturally heavy content material, such as economics, where the ratio of content to space covered is very high, lends itself well to recording, although most subjects have their turn. The teacher is even now selecting and dictating certain material for use during the coming semester and filing it systematically so that pupils may have independent access to it in the weeks to come.

There never seems to be a lack of need for drill in spelling, even through the high school grades. The dictaphone has taken its place here in saving the time of both teacher and pupil. The teacher may dictate the words when she chooses and the pupil may write them when it is most convenient for him, permitting much needed flexibility in the daily program of both.

The same may be said concerning the preparation of memory work. Through the use of the dictaphone the teacher may easily save 50 per cent of the time required to dictate memory material to pupils while they copy. At the same time the ear-minded pupil may be materially aided in memorizing by listening repeatedly until the material is memorized.

This particular service of the dictaphone is perhaps best illustrated by its use in recording foreign vocabularies for study. Our teachers or readers cannot, of course, be expert in the pronunciation of all foreign

language material. Better pronunciation is often encouraged by having the foreign language instructor take a moment to dictate the vocabulary into the dictaphone to be repeated as frequently as necessary and copied at the pupil's leisure.

Still another unique use of the dictaphone was found by one of our girls who was taking a course in short story writing. She found that by reading her short story into the machine and repeating it she was able to profit very materially through a much more objective type of self-criticism. A similar assistance is afforded the individual in a self-checking of delivery in debating or in other types of oratorical presentation.

A rather striking illustration of its usefulness in speech work occurred rather unexpectedly not long ago. An intelligent mother had brought her fourth-grade blind girl to the office to talk over ways in which she might assist her. In the course of the discussion, I called attention to Jean's peculiar mode of speech—a combination of baby talk and a slow drawl. The girl seemed not entirely convinced of the objectionable aspects of her speech; to prove my point, half in jest I led the little girl to a dictaphone which has been placed temporarily in one corner of the office. She could scarcely believe that she was listening to her own voice and was so impressed with the ludicrous rendition of her little piece that she resolved immediately, with good effect, to alter her speech.

In the sight saving and braille classes, instruction in typewriting begins in the fourth or fifth grade, depending upon the maturity of the pupil. Last spring we conducted a six weeks' test with beginners in typewriting to determine whether typewriting instruction is improved or retarded through the use of the dictaphone. The results of this test are beyond the scope of this paper. It may be said, however, that while they are not conclusive they furnish striking evidence of the ability of small children to use the dictaphone successfully and point the way to other uses to which the dictaphone might be put in the primary grades.

Of course, we have followed the not unusual procedure of having certain of our pupils take a special course in the operation of the dictaphone, frequently for credit and, in part, to prepare for placement after graduation. This work has admittedly been only preliminary, however, since I have felt that specialized vocational training in this, as well as in most other vocations, could best be secured from regularly accredited agencies specializing in their respective fields.

Certain permanent dictaphone records for teaching typewriting have also been of some service and we have given consideration to carrying on typewriting instruction through specially prepared records, but success here must await a series of records better suited to the kind of typewriting instruction we require for our pupils.

It does not seem appropriate to discuss here certain limitations which the dictaphone imposes and certain problems connected with its use, i.e., the bulkiness of recorded material; record breakage; problems of shaving; damaged records, etc.—suffice it to say that none of these are of major consideration in the limited use of the dictaphone.

The development of the talking book with prospects for so-called "home recording" of material on discs promises to simplify many of these problems and increase the range of uses to which a device of this type can be applied. Whatever may be the improved facilities which come to us through such developments, however, the service to blind children in meeting their educational needs will be determined almost entirely by the initiative and originality which teachers show in adapting them to the individual problems each faces in her classroom. There can be no formula for use of such a versatile device; even the school administrator can do little more than point the way. The teacher herself must be imbued with its possibilities for service to herself and to her group.

"COTTAGE" VERSUS "COTTAGE"

CHARLES F. F. CAMPBELL

In the November 1932, issue of the *Teachers Forum,* Miss Gladys L. Dunlop, the able Supervisor of Braille and Sight Saving Classes in the Public Schools of Detroit, presented her paper entitled, "Educational Opportunities for the Blind in Detroit," which she read at the 1932 meeting of the Michigan Association of Workers for the Blind. Toward the end of that article she gave a clear account of the Junior League Training Cottage for Blind Children, which was opened in Detroit in September 1930.

When speaking about this Cottage she said, "The aims of those working with the children are: (1) to make each child[1] as independent as possible in doing things for himself; (2) to teach him how to do certain home tasks; (3) to give each a definite responsibility for the home duties; and (4) to stimulate their play interests. Out of this program we hope for an improvement in general conduct, greater self-direction, greater self-control, and a better cooperative spirit, which makes for improvement in general school progress."

Those who have been interested in the effort to educate blind children in the public schools side by side with those who see have always recognized that while the public school plan can provide average educational opportunities for a blind child, nevertheless the plan has certain weaknesses and one of these is that it cannot, as can a residential school, offset the problems which arise from difficult home environment. Families, whether rich or poor, are often unable to provide the instruction which a blind child needs in making its readjustments to a world of sight.

For this reason, both Mr. Robert B. Irwin, when Supervisor of classes for the blind in the Public Schools of Cleveland, and the Junior League in Detroit, have striven to overcome this disadvantage of the day school plan by the establishment of a Cottage in which certain pupils, selected by representatives of the Board of Education, can be boarded. The pupils always return to their homes week-ends. As Miss Dunlop mentioned in her article, the length of time these children spend at the Cottage is determined by their needs. In other words, the Cottage is an adjunct to the present public school plan.

Since the appearance of the above mentioned paper, the writer has been asked: "Wherein does the 'Cottage' of the Junior League of Detroit differ from the cottages already operating in connection with some of the residential schools for the blind?"

First, there is a smaller number of residents in the Cottage—eight blind folks, all told. In other words, the young people, with the house mother, Miss Wanda Przyluska, who is scholarship student of Merrill-Palmer School and former Assistant Professor at Ohio State University, and her assistant, are the size of an old-fashioned family. Second, the Cottage is a rented dwelling house, located in the vicinity of the public school to which the children go, and has been used by a typical family in that locality. Third, such an arrangement enables the older blind girls, who have graduated from high school, to have, one or two at a time, a real laboratory for working out problems which are similar to those to be found in their own homes; that is, ample practice in housekeeping and home making *in addition to* the theory of it all. It is this third point of difference which justifies the following additional comment.

Whether a blind girl is a student in a public or a residential school she needs more practice than the usual domestic science

[1] In 1932-33 there are 3 blind boys (under 12), 3 girls (under 15), and 2 girls of college age at the Cottage.

course, regardless of its efficiency, can give her—just as a medical student, upon completing his college course, is required to obtain practical experience in some hospital as an interne, so a blind girl needs practical experience under expert supervision in managing and directing home situations.

In these days, with "budgets" and "operating costs" used as household words, it is thought-provoking when we remember that the total cost of educating a blind girl in many residential schools ranges from $4,000.00 to $10,000.00. This is a tolerably large investment, and friends of the blind are not unreasonable when they ask "What is the practical result of such a course of instruction?"

No one wishes to prevent an intelligent blind girl from going as far as possible academically, but experience shows that most blind young women ultimately return to the homes of their families. In view of this fact should we not train these young women so thoroughly in practical domestic science that when they return home each can take the place of a seeing member of her family? In many families the income frequently represents the combined efforts of its members. If the blind girl can take her place as the home maker, does she not contribute as much to the welfare of the family as some seeing member who works in a store, factory, or other place of business?

In many residential schools for the blind there are admirable courses in domestic science. In some of them the boys, as well as the girls, are encouraged to share a maximum of what might be termed household duties. This is indeed gratifying and deserves every possible encouragement, but the writer still feels that we fail our blind girls if we do not provide them with an adequate laboratory in which to prepare themselves to spend the balance of their lives at home with reasonable satisfaction to themselves and others.

The difficulty of giving a blind girl in the public schools even as much domestic science training as she might receive in a residential school is another problem of the public school system. And some friends of the blind question whether there is sufficient domestic science training in some of the residential schools for the blind.

When one sees an educational institution, such as the Merrill-Palmer School (with a three million dollar endowment), refraining from spending one dollar for new buildings, and using existing dwellings on the same street in which their original experimental school started, it is challenging. Students who come to this unique educational center are encouraged to operate the dwelling houses in which small groups live while attending the school, just as if they were average family units. If this plan is considered wise for young women who have vision is it not equally worthy for those without sight?

The writer pleads for a larger opportunity for the average blind girl to practice doing the things which will enable some other member of her family to become a wage earner while she "keeps house."

Some of our readers may say that many blind women are already doing this. True, but it should be remembered that each individual has had to learn for herself, through bitter, personal experience. It is hard enough for a woman with sight to pick up accurate information about operating a home efficiently. It is even harder for a blind woman to succeed in it who has to overcome the prejudice and lack of faith among those who could help her, but who cannot imagine how a blind woman can possibly do such things. This only adds weight to our thesis that adequate domestic science training is needed for young blind women. "Rome was not built in a day," but surely the time is at hand when courageous educators of the blind will give more attention to what becomes of their graduates and will so adjust their training as to equip them adequately to carry on in the battle of life.

DOCTOR ALLEN SAYS:
HOW A SCHOOL ACQUIRED THE READING HABIT[1]

"Boys, I'm going to the receiving room for the new books." The hint was enough. My boys in procession carried them to the library, learning their titles *en route*. At our next "library hour" the big volumes went like hot cakes. This took place periodically at Norwood when books were still few, mostly hand-written, and precious. The pupils hungered and thirsted to read them. I rashly generalized that blind people were great readers.

My Boston experience soon showed me that loaded shelves may be dead shelves; that what counts most in quickening them is a reading atmosphere. The girls' school had it, because faith and encouragement made the line type legible; the boys' school lacked it, because the leadership element wanted Boston braille books and none other.

My predecessor in Philadelphia, though a braillist at heart, had been taking up the school's quota from Louisville in New York Point but had permitted his music director to retain braille as the working system of his department. Obviously the house thus divided against itself had not developed the reading spirit. I found the percentage of boy book-borrowers in 1891 to be seven. My Norwood record had shown a percentage of ninety-seven. This would never do.

At the Brantford convention of 1892 Mr. Hall exhibited his braille-writer and his daughter rattling off 100 words a minute. We braillists seized that opportunity of a lifetime, organized then and there and, after having united on American Braille, began braille-writer bookmaking. Philadelphia imported first-rate slates, one of them reinforced, and on this punched out, with hammer and awl, two-sided interlined brass plates of primers and choice readers, a few pages from each book every day. Our press was a clothes-wringer; our power, various boys. These proudly delivered the daily quota of sheets to the classrooms, where each pupil gradually built up his books sheet by sheet. This was psychological fun! Meanwhile several former pupils were employed at their homes in manuscript bookmaking. By the end of that year we had the nucleus of a library; but what was more to the point, a growing atmosphere for finger-reading. The percentage of book-borrowers had risen to seventy-six! The following year several of the braille schools installed the epoch-making stereotyper, and from then on plate production galloped. After striking off an edition for home consumption most of us expressed our plates to Louisville and from the accumulation took up our school quotas.

This brief tale of the stirring adoption of a new system, while in itself illuminating, I have used to show how the reading habit was developed in Philadelphia. Everything favored—leadership, general desire, unparalleled machinery, the cooperative interest of printer, proof-reader, librarian and teachers, and pupil participation in the book making—team propaganda, all of it. Had a ready-made library come at an Aladdin's wish, considerable reading would have begun, of course; but without constant motivation no abiding atmosphere for it. You can set water before your horses but you cannot make them drink until thirsty. Today, when we have the books in abundance, the problem seems to be getting them read. In themselves they are just untapped reservoirs of solace, information, and strength. Some boys and girls will read too much, but in order to have and to hold a general zeal for reading there must be a genuine contagion for it.

[1] cf. Annual Report, The Penn. Inst. for the Instruction of the Blind, 1893, pp. 28-37; Proceedings, A. A. I. B. convention for 1892, pp. 38-40.

WHAT POEMS DO BLIND CHILDREN LIKE?

Eoline Wallace Moore

While there have been many recent studies of reading interests of children, and included among them a few extensive studies of poetic choices, little has been done to determine the poems which appeal most to blind children. The reading books for blind pupils of the primary grades are limited in number and are often based upon the possibility of securing parallel copies for teachers who do not read braille. There seems to be a need for studies to determine the types of prose and poetry which have greatest appeal, especially to pupils in primary grades who are facing the difficulty of beginning reading and who therefore need all possible motivation. Since blind children are so susceptible to sound, teachers need poetic material of highest appeal for oral reading.

In a recent study conducted in the first three grades of the Tennessee State School for the Blind, an attempt was made to find the poems best liked by pupils of each grade. The poems used in this study[1] were those chosen in highest frequency in the Huber-Bruner-Curry study.[2] This study extended over a period of two years and collected the favorite poems of fifty thousand children. The ten poems, ranked in order of highest choice for each of grades one, two, and three,[3] were read to the blind pupils and comparative choices obtained. These poems were ranked as follows:

Grade 1 (Given in Vol. I, *Poetry Books*)

1. The Woodpecker .. Elizabeth Madox Roberts
2. Only One Mother .. George Cooper
3. A Visit from St. Nicholas ..... Clement C. Moore
4. I Like Little Pussy .. Jane Taylor
5. Frogs at School .... George Cooper
6. Jack-in-the-Pulpit .. Rupert S. Holland
7. The Rabbit ..... Edith King
8. A Farmer Went Riding ..... Author Unknown
9. The Child and the Fairies ..... Author Unknown
10. Three Jovial Huntsmen ..... Author Unknown

Grade 2 (Given in Vol. II, *Poetry Books*)

1. The Raggedy Man .. James Whitcomb Riley
2. Kentucky Babe .... Richard H. Buck
3. Our Flag ..... Lydia A. Ward
4. Hiawatha's Childhood ..... Henry W. Longfellow
5. Lullaby ..... Paul Lawrence Dunbar
6. Cradle Hymn ..... Martin Luther
7. Sugar-Plum Tree .. Eugene Field
8. The Star-spangled Banner ..... Francis Scott Key
9. The Owl and the Pussy-Cat ... Edward Lear
10. When the Sleepy-Man Comes ..... Chas. G. D. Roberts

Grade 3 (Given in Vol. III, *Poetry Books*)

1. Change About..... Old Folk Rhyme
2. Long Time Ago.... Elizabeth Prentiss
3. A Boy's Mother.... James Whitcomb Riley
4. My Country 'Tis of Thee ..... S. F. Smith
5. The Raggle Taggle Gypsies .. Old Folk Song
6. Robin Hood and the Ranger ..... Old Ballad
7. King Bruce and the Spider ..... Eliza Cook
8. Which Loved Best?. Joy Allison
9. The Flag Goes By.. H. H. Bennett
10. The Cow ..... Robert Louis Stevenson

The thirty poems were paired in groups of three, each group containing one poem for each grade. One pair, or six poems, was read to each grade in one day. The poems were not grouped in the preference rank of the Huber-Bruner-Curry study, but grouped according to reading time, so that the time for reading each group might be approximately the same. Also, the order of ranking was not to be suggestive. Care was taken to have a variety of types in each group. For example, "The Star-spangled Banner," listed for grade two, was not grouped with "America," listed for grade

[1] Huber, Miriam Blanton, Bruner, Herbert D., and Curry, Charles Madison, *The Poetry Books*, Vol. I, II, III, Chicago, Rand-McNally Co., 1926.

[2] Huber, Miriam Blanton, "Children's Interests in Poetry," *Teachers College Record*, October 1926, pp. 95-105.

[3] Huber, Miriam Blanton, Bruner, Herbert D., and Curry, Charles Madison, *Children's Interests in Poetry*, Chicago, Rand-McNally Co., 1926.

three. Two poems regarding kittens were not placed in the same group.

The manner of securing choices was as follows: The first pair of three-poem groups was read on the first day of the experiment, and one pair on each of four succeeding reading days. These reading days were distributed, two in a week, permitting time for the testing of permanency of choice.

When a group of three poems—one from each grade list—had been read, with no comment except giving the title, pupils were asked to name the poems just read and to think which they liked best. They were then asked to choose the first, second, or third by raising one, two, or three fingers. This was to prevent the attempt to choose more than one. (They frequently said that they liked all.) After this vote was counted, it was checked by asking for hands on each poem by name. Since pupils could not see the others voting, the influence of suggestion was practically eliminated.

After choices of the first three poems had been recorded, the second group of three poems was treated in the same way. Then a vote was taken between the two poems listed for that particular grade in the Huber-Bruner-Curry study. A separate record of choices within the grade was kept. The same procedure was followed in each grade.

On each day after the first reading, review votes were taken on all poems previously read. This was done before reading the new groups of poems for that day. The method of review voting was to read twice the names of all poems that had been read, then, on the third title reading, to ask for hands when the favorite was named. Of course the result of this review choosing was weighted by the fact that there were more opportunities for choosing the poems read first. The order of titles was varied in each review-choice reading.

After the thirty poems had been thus presented and choices made, a final review choice was obtained, a week after the last reading, by quietly asking one child at a time which poem of all he liked best. This time no titles were read, in order that the choice by remembering might be noted.

When five preferences and five second choices for the separate grade lists had been obtained by the daily within-the-grade comparisons, a place ranking of each five was obtained by the plan of three readings of titles.

Findings

Of course the choices for each day were affected by the limitation of choosing between two for the grade, and among three for the three grades. It is possible that if poems had been differently grouped comparative choices might have varied. This is probably most true of the grade ranking, as some in the second choice received high ranking. However, this was balanced by the grouping of poems by content types and by the double review check.

One of the most interesting findings was that choices were higher in number for second grade poems. The total choices of first grade poems, as ranked in the Huber-Bruner-Curry list, were 106, for all grades in daily comparisons; for third grade, 117; and for second grade, 136. Yet there were sixteen pupils in the first grade and eleven each in the second and third. There were only two pupils noticeably over-age—two boys in the second grade.

Lullabies and mother poems were chosen in highest frequency. It is possible that this was influenced by the fact that the children were living away from home.

Next to these favorites came fanciful poems and those of pronounced rhyme or melody. An interesting thing to note was that the two negro dialect poems, "Kentucky Babe" and Dunbar's "Lullaby" (Po' Little Lamb), changed places more than once in the choosing. After final tabulations were made and it was seen that "Kentucky Babe" had steadily grown in popularity, the children were asked why they liked it so well. They said that it was because a negro mammy was talking. The final total showed

an even number of frequencies for each of these poems. Both are lullabies, both are full of melody, and both are fanciful in form.

Luther's "Cradle Hymn" (Away in a Manger) was highest in review choices, receiving fifty-four votes, and third in daily comparison choice. This might seem to be because the children had sung it, but other poems which had been sung in school, as "America" and "The Star-spangled Banner," were not especially popular. They had no votes in the final memory-review choice, and a low ranking in other tabulations. In this connection it was noticeable that none of the three flag poems ranked high, although the pupils of the second grade had made a beautiful flag of paper chains.

Narrative poems, as "King Bruce and the Spider," "Robin Hood and the Ranger," and "A Visit from St. Nicholas," did not receive high rank. It may be that the attention span for the longer reading was difficult to hold and that it was hard to get the entire story of these long story poems at one reading.

Nonsense poems, such as "Change About" and "Frogs at School," were greatly enjoyed. "The Raggle Taggle Gypsies" has a persisting popularity, possibly because of its melody and repeating rhyme as well as its old ballad form.

Poems of animals did not have much appeal, certainly not for their "animalness." "Frogs at School" and "The Owl and the Pussy-Cat" had fair frequency, but no doubt because of sound rather than animal content. "The Cow," "The Rabbit," "I Like Little Pussy," and "Once There Was a Little Kitty" (Long Time Ago), excited but little interest. Inquiry showed that the pupils had had little opportunity to touch or play with any animals.

"Jack-in-the-Pulpit" was well liked, the children all responding to the charm of its description of feeling the way into the woods and listening intently for tiny sounds.

The poem ranking followed that of the Huber-Bruner-Curry list, with one or two exceptions. But grade placement varied greatly from that of the list. In the final individual memory choice and consistently throughout the experiment, Luther's "Cradle Hymn" was the first favorite of the first grade, although placed sixth in the Huber list for second grade.

"The Raggle Taggle Gypsies" was the favorite in the second grade, although fifth choice for third grade in the Huber list. "Kentucky Babe," ranked second for second grade in the Huber list, was first choice of the third grade.

In summary, highest choices ranked around poems of mother, lullabies, musical words, and familiar experiences. Lowest choices were of animal content, long poems, and flags—unfamiliar experiences.

Suggestions Indicated by This Study

The Huber-Bruner-Curry list should furnish good material for blind pupils if adjustment is made to their experience and if preparation is made, through widened experience, for presentation. Much oral reading of poems to blind pupils will no doubt increase reading interest.

A part of the school work for blind pupils should provide for the study of pets.

This limited study shows the possibilities of a more extended investigation of the reading interests of blind children, and it could profitably be expanded to include more pupils and more grades. Since reading is such a valuable skill for the blind, yet so difficult because of the handicaps, serious study of ways of making it interesting is needed.

The blind child lives so much apart that a store of well-loved poems memorized should give great pleasure. The school program might provide for this. There is need for data concerning requirements, methods, and materials in this field.

A longer period of comparing interests, using more poems of approved lists, over a longer time should have value. In this study, no attempt was made to make the poems interesting, except by one good reading. It

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THE HARVARD COURSE ON THE EDUCATION OF THE BLIND

JESSICA LANGWORTHY

An harmonious group of thirteen students has lately finished the Harvard Course on the Education of the Blind (N1), has taken a three hour examination, and is now starting the second semester of the year with the Special Methods Course dealing with the teaching of blind children.

The present class has two foreign members—one from Egypt and one from Cuba—and the rest, as usual, represent many parts of the United States. Dr. Edward E. Allen, so well known for his broad knowledge and vision, continues to give the lectures for N1, having returned from England last fall for that purpose. The inspiration of his personality is the great factor in helping his students to become wise and understanding workers in the cause.

"Special Methods" attempts to give our students, who have received the background of reading, lectures, and experience in the general field of the education of the blind, a practical application of such education by observation and practice teaching in different departments of the school, and by lectures and frequent conferences. The members of the class are encouraged to specialize in the fields in which they have the most interest, both in our own, and in other schools to which they may have access. The possibilities for our own children are often best understood by seeing what is done for children under other circumstances.

We have so often been asked for the exact requirements of each course that the present plan of procedure may be of interest. It must be understood, however, that changes are made from year to year in the interest of efficiency.

The Harvard Course requires per week: three or four lecture periods; twenty hours of reading; five periods of braille and pencil writing (unless previously learned); a minimum of six hours of observation and practice teaching; and a minimum of four hours of manual training (unless specially excused).

It also includes: nine field visits to Boston agencies for the blind; some brief review papers (according to circumstances); and one term paper requiring individual research. The Course is closed by a three hour examination.

Edward E. Allen, Harvard Lecturer, Director Emeritus of Perkins Institution, and D. Sc., University of Pennsylvania, serves as Lecturer, while Miss Jessica Langworthy, A. B., Smith College and Ed. M., Harvard Graduate School of Education, acts as Tutorial Guide. Other specialists are called in to assist whenever possible.

The Special Methods Course requires per week: five lecture periods; five conference periods; a minimum of ten observation and practice teaching periods; and a minimum of four periods of manual training (unless specially excused).

A prescribed reading list is given, also oral or written reports are required. A special problem is selected to be investigated and reported on at one of the class meetings. The course is closed by a three hour examination. Miss Langworthy acts as Leader, and calls in other specialists for extra help.

As has been stated in previous years, the Harvard Course is a regular offering of the Harvard Graduate School of Education. It is intensive and advanced, giving credit to those already holding a Bachelor's degree, as one of sixteen such half-courses towards the degree of Master of Education. Those not holding a degree, who can be shown to be qualified for the study by training or

experience, are sometimes accepted as special students. The fee, like that for other half-courses at Harvard, is forty dollars, payable to Harvard University on registration. "Special Methods" is also intensive and requires the full time of the student. Although a Perkins offering, Dean Holmes, of the Harvard Graduate School of Education has arranged that it may also be counted towards the degree of Ed. M. for persons specializing in the education of the blind.

Several colleges and universities—for example, George Peabody College for Teachers, the University of Pennsylvania, and Boston University—have allowed generous credit for these courses to our special students towards a Bachelor's degree.

Applications for next year have already been received, and as room for resident students in the school is limited, persons who wish to join the class are urged to make application early—before May 15, at the latest. The college year at Harvard opens September 25. Preference will be given to students having the best background of education or experience, and to those most likely to make use of the training when received. Two years of normal or college work is considered a minimum requirement. Further information concerning the courses and terms of residence may be had from Miss Jessica Langworthy, Perkins Institution, Watertown, Mass. Resident students are expected to show themselves in all ways helpful and desirable members of the school, conforming happily to its rules and customs.

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seems reasonable that carefully planned and repeated presentation of good poems, in connection with centers of school activity, should develop greater interest in, and enjoyment of, poems.

Little has been done to determine the interests of blind children in prose selections. There is need for objective standards for selection and grading of materials for readers for use in schools for the blind.

FOUNDATION LIBRARY

The January 1933, issue of *Der Blindenfreund* with its new sub-title "A Magazine for the German and Austrian Work for the Blind," introduces this old and tradition-rich magazine on work for the blind in a new and greatly changed form. The new Editor-in-chief is Dr. Artur Peiser, well known to American workers for the blind from his visit to this country in 1929. E. Bechtold, Halle (Saale) and W. Schmidt, Berlin-Steglitz, are given in the magazine as his associate editors.

The Editor-in-chief, who has already made several written contributions to the psychology of the blind, starts the new era of the magazine with an article on space perception in which he reviews recent important literature on the subject. Among other articles in this issue of interest to teachers of the blind may be mentioned "The Blind Teacher of the Blind" by Kurt Naumann, and a study of primers for the blind child by J. Mayntz. As the new sub-title of *Der Blindenfreund* indicates, this magazine thus takes the position of the professional magazine on work for the blind for both Germany and Austria, thereby making the publication of the *Zeitschrift für das Oesterreichische Blindenwesen* superfluous. This latter magazine, therefore, has been withdrawn, and the name of its editor, Dr. Karl Bürklen, can be found among the list of regular contributors to *Der Blindenfreund.*

German periodicals on work for the blind recently have devoted much space to the celebration of the 50th birthday of Oskar Baum, the blind German author who is at present making his home in Prague. Herr Baum has won wide recognition in German literary circles, and even elicited praise from celebrities like Arthur Schnitzler and Stefan Zweig. One of Oskar Baum's novels *Three Women and I* was published in 1930 in an English translation by Methuen & Co., London, England.

HELGA LENDE.

AN EXPERIMENT IN TEACHING BLIND CHILDREN TO RECOGNIZE SIMPLE EMBOSSED PICTURES

FRIEDA KIEFER MERRY, Ph. D.

Problem

Two previous investigations[1, 2] were undertaken to determine the extent to which blind pupils are able to recognize tactually simple designs and pictures representing objects of a bi-dimensional or tri-dimensional type. The results of these studies showed that blind pupils are definitely limited in this ability, especially in regard to the recognition of pictures of tri-dimensional objects which involve perspective, although their scores are increased considerably when the pictures are supplemented with adequate description.

The purpose of this article is to describe an experiment designed to determine how much the systematic teaching of perspective and the principles of graphic representation may improve the ability of blind pupils to recognize tactually embossed designs and pictures.

Subjects

Eight younger children and seven older pupils from the Lower School of Perkins Institution were available for this experiment. Table I shows in detail the nature of these two groups. The younger children comprise Group I and the older children are classified as Group II.

On account of the small school enrolment *availability* and lack of *useful vision* were the chief criteria determining selection. Generally speaking, the younger group (I) was composed almost entirely of children of subnormal intelligence while the older group (II) was of average or better ability.

Nature of the Experiment

Each child in Group I was instructed individually upon the forms of simple designs for a period not exceeding five minutes, three times a week from November 11, 1931 through December 16, 1931. Tests measuring the original ability of these children were given during October 1931, and final tests were made at the end of the period of instruction, followed by recall tests after one month's time had elapsed. From January 12, 1932 until February 15, 1932 each of these children was taught how to recognize embossed pictures of ten objects and two human figures. In a few cases the work was not completed until April because of illness and quarantine. A month after the close of the experiment the final two sets of the pictures were given as a delayed recall test.

TABLE I

Data Concerning Pupils Participating in the Experiment

Group I						Group II					
Subject	Sex	C. A.	M. A.	I. Q.	Grade	Subject	Sex	C. A.	M. A.	I. Q.	Grade
M. R.	Girl	8-6	7-4	87	Kdgn.	A. A.	Boy	10-0	9-4	94	3A
I. C.	Girl	8-2	6-9	83	Kdgn.	J. M.	Boy	11-2	12-10	115	4A
D. S.	Boy	8-1	6-11	86	Kdgn.	A. C.	Boy	11-9	14-0	119	4A
B. K.	Boy	6-7	5-1	78	Kdgn.	C. K.	Boy	10-7	11-3	107	3A
N. B.	Boy	8-4	5-1	61	Kdgn.	R. C.	Girl	11-6	13-4	116	5A
A. G.	Boy	5-3	5-6	105	Kdgn.	M. D. M.	Girl	14-0	12-10	92	6B
A. F.	Boy	5-8	4-3	75	Kdgn.	V. C.	Girl	12-6	13-0	104	4A
A. S.	Boy	9-2	4-10	53	Kdgn.						

Group I: Designs Test

The children in Group I were taught the designs according to their ease of recognition, e.g., *circle, square, triangle, cross,* and

[1] Merry, Ralph V., "To What Extent Can Blind Children Recognize Tactually Simple Embossed Pictures?" *The Teachers Forum*, III, September 1930, pp. 2-5.

[2] Merry, Frieda Kiefer, "A Further Investigation to Determine the Value of Embossed Pictures for Blind Children," *The Teachers Forum*, IV, May 1932, pp. 96-99.

star.[3] A *cylinder* and an *oblong* were added. The method of teaching was as follows:

1. The examiner gave each child wooden models of the designs and identified them for the child if he failed to do so. *One* object only was presented in *one* lesson.

2. The child was shown the "picture" of the object and was told that that was how it looked to the eye.

3. Upholsterers' tacks in the form of one of the designs were inserted in a cushion[4] and the child was asked to make one like it. This procedure was followed for everything but the star which proved too difficult for them to construct.

4. At different sittings all the objects were placed before the child and he was asked to name them.

5. The next step consisted in letting the child hunt a certain design, as: "Find the cross."

6. By this time the child was expected to be able to match the wooden models with the embossed designs, as, for example: "Put the picture of the square with the cube."

7. The examiner frequently asked the child what design he had yesterday or the day before.

8. Occasionally, to add variety, the examiner said: "Show me the star," etc. instead of asking: "What is this?" (using a particular model).

9. Some of the perceptual forms given in Year IV, 2 of the Stanford Revision of the Binet-Simon Test[5] were embossed and used to determine if the child really knew the designs upon which he had been instructed or if he would be confused by suggestion. The correct forms were placed on the right, left, middle, etc., so that the child would not identify the design by its position. For example, embossed outlines of a square, an oblong, and a square with a "bite" taken out of one end were placed before the child. The examiner said: "Give me the picture of the square. Be careful and don't let me fool you. Let's see if you're wide awake." Three trials (using different positions) were given. This technique was followed for each of the *original five* designs and the *two* supplementary figures.

10. By the fifteenth lesson each child was asked to identify the original designs. This was then followed by a recall test one month later.

Embossed Pictures Test

From January 12 through February 17 the ten embossed pictures used in a previous survey were taught in their previously established order of difficulty (from the easiest to the hardest), e.g.: *house, table, scissors, wheel, shovel, shoe, rabbit, chair, hat, pitcher.* Pictures of a *woman* and a *boy* were added to this list. In general the procedure was as follows:

1. *House*—The top and bottom of the house were indicated, and outstanding features were called to the subject's attention by such questions as:

"What does smoke come out of?"

"Where is the chimney? Put your finger on it."

"Why do we have a roof?"

"Show me the roof."

"Where is the upstairs?"

"Where is the downstairs?"

"Find the windows."

"Find the door."

The examiner concluded by having the child point out all the features which were discussed.

2. *Table*—Child felt table upon which he was working. The examiner then explained to him how the top and sides slanted in a picture. When a child responded to the question: "How many legs does a table have?" the examiner next showed him that they were all of the same size, but that this

[3] For details relative to determining the ease of recognition of these designs consult: Merry, Frieda Kiefer, Op. cit., p. 98.

[4] Commonly used in schools for the blind in connection with map work.

[5] Consult: Terman, Lewis M., *The Measurement of Intelligence*, Houghton Mifflin Co., Boston, 1916, pp. 152-154.

wasn't true in a picture. Drill was given to see if the subject understood *short* and *long*. In the picture he was told the front legs look long and the back legs look short, and was asked to find: "long legs"; "back legs"; "front legs"; "short legs," etc., thus associating the concept "front legs" with "long" and "back legs" with "short." Some children experienced so much difficulty in making the discrimination "long" and "short" that a lesson was introduced using the short and long Montessori steps.

3. *Scissors*—The picture and object were compared. "Show me the part that cuts." "Show me where you put your fingers." "Find the screw which holds the scissors together."

4. *Wheel*—The rim, hub, spokes, and spaces between the spokes were shown to the child using the wheels attached to a small wooden truck, before hunting these parts in the picture.

5. *Shovel*—Since no model of a shovel was available the children were told to examine the one used by the janitor. After discussing the shovel and its uses the examiner said:

"Where is the handle?"

"Show me the part which goes into the ground."

6. *Shoe*—The child identified the different parts of *his* shoe, after which the examiner asked him to show on the picture the toe, heel, laces, and the place where the shoe opens. The point was stressed that only one side of the shoe "showed" in the picture.

7. *Rabbit*—The children identified (on both a museum model and on a picture) the ears, tail, front paws, hind legs, eyes, and nose of the rabbit. Attention was called to his upright position in the picture and his reclining position in the model.

8. *Chair*—In teaching the concept of a *chair* a procedure similar to that used for the *table* was employed. The children were urged to look for different kinds of chairs and to notice the legs, backs, and seats.

9. *Stovepipe Hat*—Detailed discussion and description were necessary as no model was available. The crown, brim, ribbon, and stovepipe effect were emphasized.

10. *Pitcher*—After identifying the spout, handle, bottom, top, and curved sides of a small china pitcher the children were asked to find them on the picture.

11. *Human Figures*—Parts of the body; front and side views; and peculiar positions (e.g., as a boy with hands on his hips) were called to the children's attention.

When this series of lessons was completed each child was tested upon the original set of pictures, followed by a check list containing similar identifying elements. (Similar material was given as a recall test a month after instruction had ceased in order to determine how much transfer in learning had occurred.) The check list comprised the following: a larger shovel; a different type of house (side instead of front view); a lady's slipper instead of a man's shoe; a rabbit in a horizontal rather than in an upright position; a chair with a cane seat; a table with a round instead of an oblong top; a girl's hat as a substitute for the stovepipe hat; a large cup for the pitcher; a wheel of a different type; a fork for the scissors; and the pictures of a small girl and a man.

Group II

The technique followed for Group I was enriched considerably for Group II. The lessons followed this outline in general:

1. Wooden models of a *ball, square, cube, circle, cylinder, rectangle, oblong, equilateral triangle, pyramid, star,* and *cross* were presented for identification.

2. Pictures of these models with and without perspective were used with the models themselves.

3. The children were required to make the cube, cylinder, and rectangle in perspective by sticking upholsterers' tacks in cushions.

4. The pictures were taught in a manner similar to the method used in Group I, sup-

plemented by guided pencil drawings (child put tacks at certain places, as for example, at bottom of roof in drawing a house to guide him in making the sides, etc.). Out-

amount of transfer) made by both groups of blind children in recognizing tactually embossed designs and pictures after intensive training is presented in Table II.[6]

TABLE II

Amount of Improvement Resulting from Systematic Instruction in the Recognition of Embossed Designs and Pictures

Subject	Group I Improvement (Per Cent) Designs	Improvement (Per Cent) Pictures	Subject	Group II Improvement (Per Cent) Designs	Improvement (Per Cent) Pictures
M. R.	25	—20	A. A.	10	40
I. C.	70	40	J. M.	0	10
D. S.	65	30	A. C.	10	50
B. K.	55	20	C. K.	30	40
N. B.	15	0	R. C.	0	40
A. G.	95	—10	M. D. M.	10	20
A. F.	55	0	V. C.	35	30
A. S.	10	0			

lines of many of the pictures were made with tacks upon the cushion over which a sheet of paper had been placed so that the child or examiner could trace the outline with a pencil. Free-hand folding and tearing of a shovel were used for one lesson. "Tack" pictures were made from both objects and embossed pictures as models, with and without perspective. In addition to the original embossed pictures the children:

1. Chose things they especially wanted to draw.
2. Drew a vase and a cup from models.
3. Drew an American flag from an embossed picture.
4. Studied a miniature of a house given to Perkins by a Boston architect.
5. Made a man using plasticine.
6. Selected an object to be made from plasticine.

The tracing wheel was not used by the children to make pictures as it introduces too many complications, e.g., such as making the picture backwards (on the reverse of the sheet) so that it will appear normally on the front of the paper.

The procedure followed in giving check tests and recall tests was similar to that used with Group I.

Results

The percentage of improvement (or

The results given in Table II show that instruction upon designs representing bi-dimensional objects yielded significant improvement for both groups, especially with the younger children. The older children made less improvement since, in general, they obtained higher initial scores.

There was less gain, however, in the ability of both groups to recognize embossed pictures of tri-dimensional objects, particularly with Group I.

Conclusions

Although exceptional blind individuals may be able to reproduce drawings employing the principle of perspective, it seems unwise to encourage any extensive teaching of pictures representing objects in three dimensions, unless used occasionally as a source of enrichment for mentally superior blind children. The question of how much real meaning such a procedure possesses for blind children in general must be considered carefully. Instead of giving reality to ideas of things we may be increasing vagueness and verbalism, a criticism which any progressive teacher of blind children wishes, if possible, to avoid.

(*Continued on Page* 78)

[6] The difference between the initial score (before teaching was attempted) and the score on the "recall" check list constituted the amount of improvement computed in terms of per cent.

THE DEPARTMENT OF PERSONNEL AND RESEARCH AT PERKINS INSTITUTION

KATHRYN E. MAXFIELD

Introduction

Although the Department of Personnel and Research at Perkins Institution is a new venture, as a department, many aspects of its work have been carried on here for years. At a later date a more comprehensive presentation of its activities will give the background of the department as it exists today. Because of the fact, however, that we are still too new to have entirely "found ourselves" only a brief account of our organization and purpose will be given here. Suffice it to say that the department owes the development of its several branches to the foresight of the Director Emeritus of Perkins, Dr. Edward E. Allen. In grouping these activities under one department the present Director, Mr. Gabriel Farrell, has carried Dr. Allen's ideas to their logical conclusion.

Branches of the Department's Work

(a) *Psychological*

Although all the activities of the Department of Personnel and Research are in the last analysis psychological, in the sense that they are all designed to aid the pupil toward a more complete development of the personality, certain portions of the work are more distinctly so than others. These are the mental testing, the psychometric and personality research, and the consultative work relating to special problems.

In addition to giving the Hayes-Binet Tests to all new students, to children presenting special problems, and to those who are due for automatic re-tests, the psychometrist gives tests for special abilities and helps the teachers in the checking and scoring of educational tests. Also within her province lies the diagnostic teaching of problem children.

During this first year it has been necessary to devote so much time to problems of organization that psychological research and consultative work have not yet been developed to the proportions they will assume later. So far, the research work has been limited to minor studies based largely on the records already at hand—such, for instance, as the distribution of our pupils according to grade placement and mental ability, and as the stability of the intelligence quotients in children presenting other handicaps than blindness.

The consultative work is done chiefly by the director of the department. As soon as it is possible for her to devote less time to executive work, an increasing share of her attention will be given directly to the personal problems of individual students.

(b) *Physical Therapy*

At the beginning of each year a well known orthopedic surgeon sees all the new students, makes recommendations regarding any necessary corrective work, and checks the progress of students recommended by him for treatment the preceding year. In the late winter or early spring he comes again to make sure that his directions are being followed properly and to make any necessary changes in diagnosis.

This branch of the department works in cooperation with the Medical Department and with the Physical Training Departments in both the Upper and Lower Schools. From the Children's Hospital come students in the physiotherapy course for observation and practice work.

(c) *Speech Correction.*

As with the two preceding branches of the department this one also was instituted by Dr. Allen some time ago. All of the new children are examined each year for speech defects, and former students are checked to make sure that speech peculiarities are not developing or that former ones

are not reappearing. Those who need it are then given from three to five periods of corrective training a week.

(d) *Vocational Guidance*

At the present time vocational guidance is just being initiated as a definite feature of the school program, and is under the immediate supervision of the director of the department. In this branch of the work, as in many others, every teacher, housemother or housemaster, who is in close contact with the students must be ready to contribute, and many of them have a great deal to offer. Some time in the future we hope to have a trained vocational guidance adviser.

During the course of this year conferences have been held with those boys and girls who must soon leave the regular classes, and whenever possible, an attempt has been made to "sample" their vocational abilities. In this vocational work we are having the active cooperation of the Massachusetts Division of the Blind.

(e) *Field Work*

By no means the least important branch of this department is the field work. We have as field worker a public health nurse whose time is partly shared by the Medical Department, since she acts as relief nurse. Her duties in this department consist chiefly in taking the pupils to and from medical clinics, visiting the homes as liaison officer between the home and the school, and collecting necessary data regarding new children and special problem pupils.

(f) *Administrative Work*

In order that important information regarding all of the students may be centralized, a large share of the records pertaining especially to them have been located in this department. This has necessitated the preparation of unified record sheets and cards. Since we have a well-qualified department secretary, the record keeping falls to her lot.

Summary

The main branches of the Department of Personnel and Research are six in number: (1) Psychological, (2) Physical Therapy, (3) Speech Correction, (4) Vocational Guidance, (5) Field Work, (6) Administrative.

To these might almost be added a seventh heading, called *Miscellaneous*. The director of the department is giving a portion of her time to the American Foundation for the Blind as editor of *The Teachers Forum*. The department as a whole cooperates with Dr. Samuel P. Hayes and the American Foundation for the Blind in connection with studies he is making for that organization. It takes an active interest in museum work for blind pupils, both for what it may contribute to our pupils now and for what it may bring in the future to visually handicapped students in institutions which are remote from museum centers. There are also other contacts with outside organizations which are now developing an interest in the physically handicapped—contacts which it is felt will eventually react for the welfare of our pupils.

The latest Bulletin from the United States Department of the Interior, Office of Education, is "Parents' Problems With Exceptional Children" by Elise H. Martens, whose previous pamphlet "Opportunities for the Preparation of Teachers of Exceptional Children" was reported in the last issue of the *Forum*. The new pamphlet takes up the questions of discovering and classifying the exceptional child and the various problems which are met with in each group.

(*Continued from Page 76*)

Although the present study was carried on with but fifteen subjects, it seems unwise to expend any considerable amount of time teaching blind children how to recognize, tactually, pictures of tri-dimensional objects. If, however, the needs of the child demand instruction upon the identification of simple figures in two dimensions, time for such work seems justified.

THE TEACHERS FORUM
for
Instructors of Blind Children

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STUDENT PARTICIPATION WITH SEEING CHILDREN

How many blind children are there to whom has come the opportunity of taking part in a well-trained orchestra of seeing boys and girls? Some time ago we received from the Washington State School for the Blind a newspaper account of the activities of the Portland Junior Symphony Orchestra, one member of which is a blind cellist who is attending the school in Vancouver. Because of the fact that all the other members of the Junior Symphony have full sight Robert Sherman, the blind boy, has ample opportunity to prove to those interested in his future that he is capable of taking his part in an orchestra just as well as do the others who see.

Probably this boy is better qualified than many because of an apparently unusually retentive memory. Through the use of braille music notation he has memorized very ambitious programs, including even such scores as Paul Dukas' "The Sorcerer's Apprentice."

Not every school for blind children is located in the neighborhood of a carefully organized, well directed Junior Symphony Orchestra but many of them have other opportunities in their community for getting blind children into organizations composed of those who see. Such opportunity for close association with young people of their own age seems to offer one of the most satisfactory methods of taking away from visually handicapped children that social awkwardness which is so often a source of unhappiness to the blind child himself and a source of worry to his family and friends. In Robert's case, for instance, it is safe to assume that he has learned to be more at ease among seeing people in social gatherings, that he has learned the value placed by the world at large upon intelligent and cooperative effort, and that he has learned the need for self-discipline. In many communities the opportunity to take part in dramatic performances, in Scout work, and in other club activities with the seeing should go far, in both residential and day school classes for the blind, toward minimizing in the mind of the public, the limitations of the competent blind.

STUDENT PLANNED RECITALS

One of the very valuable contributions that the teachers of the music department of the Iowa School for the Blind have made to the educational progress of the school is to be found in the student recitals that have been given from time to time.

Whenever a student, in any of the music departments, has reached a certain point of progress, he is privileged to give a private recital, which some of his teachers and a few special friends are invited to attend. These are usually held in one of the smaller classrooms and twenty to twenty-five invited friends attend. The recital is entirely in the hands of the pupils, acting under the teacher's direction. A pupil presides, introducing the one who is to give the recital, announcing each of the numbers, and giving a brief description of the selection to be played, as well as a brief sketch of the author.

These recitals have proved of great benefit to students and teachers alike, furnish-

ing a good motive for real earnest work and stimulating interest, not only in the performer himself, but also in his selections and their authors.

The following brief description of one of the numbers included in one of the individual student's recitals given last fall at the Iowa School, is an illustration of the type of material on the programs:

Sonata No. 9 . . . Mozart

This composition consists of a theme and six variations of the theme, a Minuet, Trio and Turkish March. Although each of these divisions is complete in itself, they together form the whole Sonata. The Sonata form usually consists of three or four distinct movements, each with a unity of its own, yet all related so as to form a perfect whole. Virgil played the theme and four variations. Notice that the third variation is in the Minor mode. Mozart belongs to the classical period of music, where the form is all-important. He was a child prodigy, born in 1756 and died in 1791. His music is full of beautiful melodies carefully harmonized.

A SUGGESTION

How many residential or day school classes for the blind regularly employ a blind dictaphone operator? It is probable that some institutional schools would not be able to employ blind operators because of Civil Service regulations, but there must be a number of educational centers for the blind throughout the country which are not so hampered.

Just how extensive a field exists for blind dictaphone or Ediphone operators, even in prosperous times, is doubtful. That this field does offer a good vocational opportunity to a limited number will be denied by few people who have had the services of an efficient blind operator.

However strange it may make one feel at first, to express oneself audibly over a recording machine, it is surprising how soon one becomes used to it. We have had a blind operator for many years. The result is that by now we feel actually dependent upon one of these machines, since we are free to dictate at odd moments when the services of a stenographer would not be easily available.

What better place is there for demonstrating to the public the practicability of employing a blind person as an operator than the office of a superintendent of a school for the blind or the supervisor of day school classes for the blind?

The Editors are still desirous of obtaining copies of the May 1932 issue of *The Teachers Forum,* because of a depleted supply. We shall be glad to pay twenty cents for each copy sent in. Please send the copies to the Foundation at its New York address.

The ink print copies of the Key to Standard English Braille, Grade Two, the uniform system for English-speaking countries adopted last summer at a meeting of the British and American Uniform Type Committees, may be obtained free of charge by those desiring them, from the American Foundation for the Blind, 125 East 46th Street, New York, N. Y. Braille copies of this same Key may be obtained from the American Printing House for the Blind, Louisville, Kentucky, at a price of fifty cents each including postage.

Our Contributors

Mr. George F. Meyer is Supervisor of Braille and Sight Saving Classes in the Public Schools of Minneapolis, Minnesota. He is also a Trustee of the American Foundation for the Blind.

Mr. Charles F. F. Campbell, the son of Sir Francis and Lady Campbell, is Executive Secretary of the Detroit League for the Handicapped.

Mrs. Eoline Wallace Moore, Professor of English Literature at Birmingham-Southern College, did the work described by her here while she was studying at George Peabody College for Teachers in Nashville.

The experiment described in this issue by Dr. Frieda Kiefer Merry was done last year while she was Supervisor of Special Studies at Perkins.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. V MAY, 1933 No. 5

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THE VALUE OF LATIN FOR BLIND STUDENTS

Leo J. Flood

The question "Of what value is Latin as a subject to be taught the blind?" may be answered in this way. Latin as a subject has every value for the blind that it has for the seeing. One may go even further and say that, since there is no satisfactory dictionary in braille, the increased ability to understand the exact meaning of English words derived directly or indirectly from Latin, and the increased accuracy in their use as a result of studying Latin makes that language of unique value to the blind student. The potential capacity of Latin to develop the habit of exact thinking, through the improvement of the mother-tongue as an instrument in the process, is of such great significance that it justifies the presence of Latin in the secondary curriculum of schools for the blind.

Latin has been taught continuously at the Illinois School for the Blind since September 1911. During most of this time the course has consisted of two years of high school Latin, but for several years third year Latin was added to the course. Beginning Latin is taught in the second year while Latin II comes in the third year of high school. It would be better to have first year Latin in the freshman year in accordance with the arrangement in schools for the seeing, since our students are usually two years retarded and since pupils are more willing to learn the forms when they are younger.

We require the same amount of work in the respective years that is demanded of seeing students in high schools of recognized standing. In the first year the content of the course consists of 112 lessons of D'Ooge's *Elements of Latin,* in addition to supplementary reading in the text, which comprises selections for sight reading, a Latin play, and a story which is intended to serve as an introduction to Caesar. Collateral reading in English is also included in the first year, in order to give the student an insight into Roman civilization, its laws, customs, religion, and ordinary life.

The second year course includes the translation of Caesar's *Gallic War,* Books 1-4, the writing of Latin prose composition, and supplementary reading in English which consists of classical mythology, biographical sketches, examples of Roman wit and wisdom, Roman traditions, and dramatic events in Roman history.

When third year Latin was taught, the content was the translation of Cicero's four orations against Cataline (*IV In Catilinam*), *Pro Lege Manilia* and *Pro Archia;* the writing of Latin prose composition; and supplementary reading concerning the daily life of the Romans and characteristic Roman qualities, and stories illustrative of them. It may be of interest to note that third year Latin was put into the curriculum at the request of a second year class that wished to continue its study of Latin.

Up to the present time we have adhered necessarily to the traditional course of study because of the lack of texts in braille which are based on the *Report of the Classical Investigation of 1924.* This report is considered the most extensive and searching investigation ever made of the classics in American schools, or of any other school study. The American Classical League spent three years in this work and covered the entire United States. There have been few educational reports in recent years which have met with so favorable a reception from the teachers of that subject, and so prompt an acceptance of its chief recommendations, as have been accorded this report.

The report conspicuously omits Caesar from the list of readings for the third semester and gives opportunity for reading that author in the fourth semester. For more than a generation our schools have held to

four books of Caesar as a requirement for the second year of Latin study, in face of the fact that Caesar is very difficult Latin. In every particular, vocabulary, syntax, and the like, it is more difficult than the German, French, and Spanish used in the fourth year of high school. The beginning should not be made in the first book. This is about as difficult Latin as is found in the high school course. After the story of the first book has been given, the second, third, and fourth books should be translated; last of all should come the first book.

The report recommends for the second year the reading of 1500 lines of continuous, easy made or adapted Latin and 1300 lines of classical Latin. The particular books recommended by this report offer a large range from which to select the right kind of reading for the third semester. Unfortunately we cannot adopt this recommendation in the third semester since material for this kind of reading is almost entirely lacking in braille. Last year a few chapters from *Latin for Today,* by Gray and Jenkins, were brailled. It would be of the greatest assistance to our work in Latin, if this entire book or some other modern text for both the first and second years were put into braille without further delay. The grade one and a half text of Caesar was taken from a print edition bearing the copyright date of 1904.

According to the *Report of the Classical Investigation,* "The immediate objective which underlies the entire process for each year of the course is the progressive development of the power to read and understand Latin. This involves increasing mastery of the elements of the language; namely, vocabulary, forms, and syntax. The relative emphasis to be attached to these elements year by year will depend upon the contribution which they may make to the ability to read and understand Latin or to the attainment of certain of the ultimate objectives.

"The ultimate objectives regarded as valid for the first and second years are given in the order of their importance: (1) Increased understanding of those elements in English which are related to Latin; (2) increased ability to read, speak, and write English; (3) development of an historical and cultural background; (4) development of correct mental habits; (5) development of right attitudes toward social situations; (6) increased ability to learn other foreign languages: (7) elementary knowledge of the simpler general principles of language structure."

The most important objectives in the study of Latin are the increased understanding of those elements in English which are related to Latin and the increased ability to read, speak, and write English. English is a language of mixed origins, being constructed of several elements. It has been estimated that of the 100,000 words or thereabouts in the current English vocabulary, 60,000 are of Latin origin, 30,000 are purely English, and 10,000 are taken from other foreign sources.

The Latin element in English literature is likewise very important. By receiving and assimilating the Latin influence English grew from a provincial dialect to a world language, from an insular to a world literature. The great Roman writers furnished the models from which the structure of English prose was wrought out and given permanent form. English poetry has likewise developed under the direct influence of the Latin poets who created a standard and left a model for the civilized world. Latin is necessary, therefore, to gain any historical grasp of the English language and literature.

Our everyday language has embedded in it a large number of Latin words and phrases which have become almost parts of our English language. Latin by its logical precision is invaluable towards forming a habit of clear thought, and towards enabling people not only to think clearly, but to express their thought accurately, in English.

J. W. Mackail in "The Case for Latin in

Secondary Schools" says the following: "The claims of Latin to a place in schools are often, and quite reasonably, urged on the ground that it is the common source from which French, Italian, and Spanish are derived, and that accordingly a knowledge of Latin puts one in the way of learning these languages, or any one of them, quicker and better. That is so. But it is still more important to realize that for the study and mastery of English alone, Latin is all but indispensable."

As over half the words in the English language are derived directly or indirectly from Latin, and as nothing but a tolerable familiarity with Latin roots can prevent a stupid misuse of words derived from Latin, we place great emphasis on word formation and derivation. This feature of the work is of special importance to the blind student, since there is no adequate dictionary in braille. Even if there were such a work in braille, so many volumes would be required that it would be clumsy, hard to use, generally not available when wanted, and so expensive that very few could afford to own a set. One member of our faculty, a graduate of the Illinois School for the Blind, who majored in Latin at her university, believes that a knowledge of Latin is of great value to the visually handicapped because of the increased ability to spell English words of Latin derivation and to understand their exact meaning, and the increased accuracy in their use.

Our students are encouraged to discover independently new derivatives from Latin words already learned and to recognize, in their English reading, derivatives discussed in class. The particular experience in which a knowledge of derivation will operate in later life will, for most pupils, be in connection with reading in English. By a systematic study of derivatives occurring in natural English contexts, the pupil is trained for the actual use to which he will put his knowledge of derivation. A certain amount of careful analysis of English derivatives is desirable to provide pupils with accurate knowledge of the important constituent elements; namely, prefix, root, and suffix, and a thorough mastery of the significance of each element. The systematic study of derivatives, especially if closely associated with natural contexts, should make a large contribution to the pupil's reading vocabulary, and should result in an increased ability to read English with correct understanding.

Some of the strongest champions of Latin are teachers of English. J. V. Denney, Professor of English, Ohio State University, said the following: "Every English-speaking student should give himself at least one year's honest trial in the study of Latin. Latin is the best available training in general grammatical concepts. The grammatical dexterity slowly acquired through Latin study is of direct and immediate use in English. Latin also widens English vocabulary and makes for accuracy and truth of statement. Latin literature furnishes the key to the understanding of the great body of English literature. The ideas embodied in Latin literature are the ideas that engaged the attention of those who wrote English literature up to very recent times. Acquaintance with some of these ideas in the language in which they were originally expressed enables the student to get the right feeling for them."

The teacher of English in our high school affirms the importance of secondary-school studies in Latin, not only as affording valuable training in principles common to all languages and literature, but especially as furnishing the specific backgrounds necessary for a complete knowledge of the English language and literature.

Another important objective in the study of Latin is the "development of an historical perspective and of a general cultural background through an increased knowledge of facts relating to the life, history, institutions, mythology, and religion of the Romans; an increased appreciation of the influence of their civilization on the course of

western civilization; and a broader understanding of social and political problems of today." Most people agree that the solution of our present-day problems will be aided by a knowledge of the experience of the race, and that some knowledge of the early history of our civilization is an important element in the training for citizenship. The unique value of Roman history for this purpose is due not only to the contribution made by Roman civilization to our modern world, but also to the fact that through Rome we have received rich inheritances from older civilizations.

The most effective way of getting direct and intimate knowledge of the Romans and of their civilization is by first-hand contact with their language and literature. A student who has learned to comprehend the thought of a Latin sentence in the original has come into direct contact with the genius of the Roman mind as revealed to him through the medium of the Latin language. As his control over the language grows, he is able to enter more largely into the spirit of the great people whose literature he reads and to share in the rich heritage left by the Romans.

The reading content of the Latin course should keep the cultural objective clearly in view and should be so organized that the pupil's actual knowledge of Roman life will be appreciably increased. He should be stimulated to engage in a more extensive reading in English concerning Roman life and history and to acquire a more intelligent appreciation of the meaning of what he reads.

Schools for the blind should provide for their pupils the best sort of education, its object being to develop and discipline their abilities so that they can be used to the best purpose for themselves and for the community. Latin is an element of high value in such an education. It should, therefore, be placed within the reach of those pupils who for special reasons want to learn it, but should also be an element in the course which the whole body of pupils normally pursues.

It is an admitted fact that some pupils in high schools for the seeing take courses that require very little effort on their part. These students fail to get that broad training so necessary in preparing the student for his place in life. It has been the policy of the Illinois School for the Blind that students in the high school take a course of study, leading, upon graduation, to the conferring of a diploma which will be recognized by the colleges and universities. Twenty-eight of our graduates are at the present time pursuing courses in schools of higher learning, mostly liberal arts colleges. The great majority of our graduates do not attend college, as scholarships are awarded only to students of exceptional ability. The curriculum, therefore, is especially adapted to the needs of the students who do not pursue their education further than graduation from high school, rather than to the needs of the small number who are so fortunate as to be able to continue their education in college. Every subject in the curriculum has its place because of its immediate and ultimate value to the student, and not on account of preparation for some future educational course.

Mr. L. W. Rodenberg, an authority on braille musical notation, has expressed the belief that a knowledge of Latin is of great importance to students of music in schools for the blind, especially to those students studying organ. More than a thousand persons without sight hold positions as organists in the churches of France. Most of them are in the smaller parishes, but some are in the greatest cathedrals; namely, Notre Dame de Paris, St. Germain-des-Pres, and Arras. It is needless to say that practically all of these organists must have a knowledge of Latin in order to fulfill the duties of their positions.

Pupils without sight need not only the practical education furnished by vocational

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JUDGING PERSONALITY ADJUSTMENTS OF BLIND KINDERGARTEN CHILDREN THROUGH PLAY ACTIVITIES

FRIEDA KIEFER MERRY, Ph.D.

Probably the most important single aim in the education of blind children is to aid them in making satisfactory adjustments toward others, and especially toward seeing people. To make these social adjustments most effective, training should begin in the pre-school years, but frequently circumstances prevent this. The child often is sent to a residential school where training in desirable social attitudes may or may not be stressed, and in his home environment insufficient emphasis may be placed upon the development of a well-balanced personality.

It is the purpose of this article to show how a teacher of blind kindergarten children can judge and guide behavior adjustments and emotional difficulties of the children through their play activities.

The Department of Special Studies[1] formulated a questionnaire concerned with a number of play activities of blind children. These called for specific information upon their enjoyment and independence of play; characteristics and types of play, and their relationships to each other while playing. Miss Wilhelmina Humbert and Miss Carolyn Burrell of the Perkins kindergarten, and Miss Elva Osborne, kindergarten teacher at the Illinois School for the Blind, rated each of their pupils in October, January, and April, 1931-1932, according to this scale. The three groups comprised 31 children of varying intelligence, ranging from 5 to 10 years. Of these, 23 had had one or more years in kindergarten prior to this study.

Results

Six children showed marked improvement in social adjustment between their first and third ratings, while five other children evinced the need for further assistance in developing desirable habits and attitudes.

As a group this sampling of blind kindergarten children seemed to enjoy their play and liked both children and objects. They exhibited normal leadership qualities, were not more than ordinarily jealous, and in general played with children of their own age or those slightly older. Even after a year's enrolment in kindergarten, however, their play, on the whole, is more monotonous and less constructive than that of the average child. The greatest amount of improvement was shown in "giving in to others," sharing toys, orderliness in putting things away, and in not causing behavior difficulties within the group. This seems to indicate that parents of blind children unthinkingly allow them to have their own way and encourage selfishness and dependence.

Dolls and playing house seemed to be the favorite diversion for a group of girls, while block building and play with toys (especially a small dump truck and a fire truck) interested a group of boys. A mixed class of boys and girls enjoyed more variety in their play: cutting out paper dolls, luncheon doilies, etc.; constructing things, e.g., making a paper shoe or sewing a costume; modeling with clay and plasticine; playing orchestra, etc. Two unusual types of play were illustrated by a small boy making a pillow case and a girl impersonating adults.

Conclusions

Although this study was confined to a small group of blind children its results indicate that on the whole they play normally in suitable environments. There is a tendency, however, for their play to be too monotonous, and efforts should be made to

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[1] Conducted jointly by the American Foundation for the Blind and Perkins Institution for the Blind at Watertown, Massachusetts, from 1927 to 1932.

PUPIL ANALYSIS IN THE MINNESOTA SCHOOL

MENDUS R. VEVLE

Every school system, whether it is of a general or specialized type, has as its objective the uniform and systematic progress of its pupils. There are many factors that affect this objective even to the extent that many of them hinder progress. A program, through which the administrator can find these retarding influences and which will help him to discharge his responsibility to that group of pupils which is most urgently in need of help, is of utmost importance.

A school for the blind has its full share of situations that are difficult to analyze and their influence can be positively seen in the retarded progress of some pupils. Some of these arise because of the following conditions:

1. It is difficult to secure a satisfactory mental test for prospective pupils. Because of this, questionable cases must be accepted for trial. The wisdom of so doing is seen in the large number of these children, who under proper classification and guidance, develop into acceptable students with a pleasant prospect for the future.

2. Grade classification is unreliable for new pupils who have previously attended school. Frequently, because of seriously defective vision or blindness, teachers have given pupils too much credit purely out of sympathy, or have over-emphasized effort, deportment, and oral response, and have lost sight of academic accomplishment. The natural result is a period of floundering for the child.

At a school for the blind he, no doubt, is given an opportunity to enter the grade designated in the report of the public school. When his new teachers find that he cannot do a reasonable amount of the work required he is recommended for demotion, an experience he may be required to undergo two or three times, until his spirit is broken and his confidence in himself is shaken. The result is a serious loss of time which continues until renewed confidence can be established with an interest and desire to advance.

3. Physical defects frequently have a direct bearing upon progress. When teachers lose sight of this factor the child is misjudged even to the extent of being considered feebleminded. The child begins to doubt, loses interest, becomes careless, and develops into a discipline problem.

4. Children who have previously attended public school, and who find that they must now enter a school for the blind, have been working under the guidance of parents and in a school which enrolls large classes and uses devices intended for the seeing. The removal from parental and public school direction to a boarding school for the blind, with the resultant changes in demands and devices, creates the necessity for a transition period to bridge the span from the home environment to the more restricted life of a boarding school. This period of time should systematically introduce the child to his new environment, his new type of school activity, and the new tools he will use in answering school demands.

How best can a school for the blind prevent the ill effect on pupils of such factors? At the Minnesota School for the Blind we have attempted to solve these and other problems by organizing the Department of Pupil Analysis.

Beginning with September 1, 1931 we employed a teacher with a major in psychology from the University of Minnesota. We also secured the cooperation of Dr. Fred Kuhlmann of the Minnesota State Research Bureau as well as the cooperative service of one of the testers from that bureau. Dr. Kuhlmann has continued as our consulting psychologist and has given us liberally of his wide knowledge and experience.

Our first task was to get a reliable intelligence quotient for all our pupils. We used the Hayes-Binet Test, which was given under the combined direction of the director of our department and our visiting tester. All cases with sufficient sight to take a test designed for the seeing were retested with the Kuhlmann-Binet Test and the results compared. All of the cases were rechecked and all doubtful I. Q.'s were given further consideration and frequently retested. By this process we arrived at a reliable I. Q. which could be used in our plans.

We found a wide variation in intelligence. Our range the first year was 33 to 152, with a median of 96.2. We considered each case that fell below an I. Q. of 70 and eliminated those for whom we could be of no further service. Our new admissions for this year included so many cases in the range from 65 to 75 that our median fell to 93.6 and our range was 65 to 150. We are again carefully observing those that fall below 70 and will again eliminate those for whom an educational program of the type we can give is of little or doubtful value.

But the value of our testing program extends beyond that of an eliminating device. It should also be noted that the I. Q. rating is not looked upon as the final conclusion in all cases under consideration. It is a very useful bit of information concerning the pupil which has a positive influence on the consideration of facts, but which must be weighed in the light of all other data available. Our testing program has given us most useful assistance in studying pupils and in planning for their future. But how has the department worked out in practice? Let us review some cases.

Case I

In the fall of 1931 a sixteen-year-old boy with 6/60 vision in each eye was accepted for admission. He had attended both a public and a parochial school, but on account of poor vision had made very little progress and could not be classified above the third grade. His teachers and parents thought he could not learn and hinted that he might be feebleminded. In conversation with his teacher he confided to her that he was not able to learn and saw little value in attempting to read or to study other academic material. He was promptly tested and we found he had an I. Q. of 103.

Because of a sympathetic understanding, established with the director of the department, he made every effort to accomplish as much as his abilities would allow. He learned to read braille and through it saw new light and began to wonder how far he would be able to go in school. He was taken into our confidence and advised that we wished to have him enter the seventh grade the next year. He put forth his best efforts and made good. He is in the seventh grade and is doing well. He will finish the eighth grade next year.

In addition to the academic program worked out by the Department of Pupil Analysis this boy is doing some industrial work in a very acceptable manner. He will, no doubt, leave the school in due time a useful and happy citizen.

Case II

A girl seventeen years of age had been at the school four years, but had made little progress. Teachers had lost interest and freely said that she had gotten as far as she could ever go. It was just a matter of keeping her busy until she would leave school on account of her age. She, too, was discouraged and found little to interest her. She was at times a discipline problem.

She was placed under the care of the Department of Pupil Analysis. Her diagnosis was as follows: age, 17; vision, none; I. Q., 77; grade classification, fourth; interest, negative; best subject, spelling; interest in the future, none. After some consideration she was given the subject matter most suited to her ability without thought of classification. After some months of intensive work it was discovered that she could do the work that would correspond to sixth grade difficulty.

This year she has been placed in the seventh grade and is doing acceptable work. We expect her to do eighth grade work next year. Her general interest has improved; she is no longer a discipline problem; she does better in her industrial work and devotes much time to study and reading. She apparently is able to do work of greater difficulty than her I. Q. would indicate.

Case III

The most difficult type of student to analyze and to prescribe for is the one who has a high I. Q., but is doing poor work. We have such a boy. His diagnosis is as follows: age, 10; vision, left and right eye, each 5/60; I. Q., 150; grade classification, fifth; interest, fair; best subject, spelling; interest in the future, doubtful. He was not doing better than the poorest in the class; hence, we assigned him to the Department of Pupil Analysis.

It was at first doubted that he had enough vision to do any sight work. Our oculist verified this and recommended that he be placed in the braille rather than in the sight saving classes. This change made little difference in his progress. The department made an intensive study of his case and found some interesting facts. He apparently had sufficient interest in his own progress, but lacked the nervous control to carry out his desires. He had developed very bad study habits and had not learned how to plan his work and how to complete his assignments. Frequently he was satisfied with a lesson that was only half prepared. He lacked energy and ability to use his powers.

Only moderate success has been achieved, but after a number of adjustments were made he was placed in his regular classes again and watched by the director of the department. No doubt he will be given intensive consideration again next year.

Case IV

Physical defects create a variety of situations. We have a boy eleven years of age who lacks muscular control and has a speech defect. He has been at the institution five years, but has made very slow progress. The records show that his mentality was questioned and that his advancement had been very irregular. He was tested and was found to have an I. Q. of 90.

He had learned to read braille, but had failed in his attempt to learn how to write. His teachers found it necessary to depend upon his oral response, for his writing was not readable. Our problem was to determine whether he was unable to write because of his lack of muscular control, or whether his physical defect was an excuse accepted by himself as well as his teachers. The Department of Pupil Analysis was assigned the task of determining these facts.

Extensive tests were given him until it was determined that he could write. It was then necessary to get him out of the attitude of mind which caused him to accept failure in this respect, and to create a desire to succeed. This was accomplished so that today his writing has become a valuable part of his school response and is used in all school subjects. He is writing correctly an average of 96 letters out of 100. He has improved in his other work and is becoming more of the normal type of child in his classes.

The above cases are samples. There are many others offering as much variety and interest. All of our problem children are under the guidance of the director of this department.

The services of the Department of Pupil Analysis must extend beyond that of prescribing for problem children. The child who is normal in all responses needs advice and counsel. It is sincerely hoped that a variety of aptitude, personality, and interest tests can be devised for blind children so that one will be in a better position to advise them with respect to their future activities. During times when it is exceedingly difficult to advise and direct those without any physical defect it becomes doubly necessary to have all of the helps available in order that the young handicapped students can be directed into proper channels of usefulness.

When this is done these young people will repay with a full expression of their useful and happy lives.

What is to hinder the extension of this type of service into the re-training activity of adults? Too much of our advice to them is based upon the obsolete facts of a passing age. They too often are fitted into a program which has little or no future in it and which does not take into consideration abilities and aptitudes. We need a real program of analysis and guidance in this field.

We have plans in mind for our department. The field of achievement tests has as yet been untouched. Our future plans call for work in this field and we hope to be able to devise some useful material to aid us. Then, too, we hope to be able to make the services of this department available for our summer school for adult blind.

The contribution of this department in giving us more facts about our pupils and in bridging the span between the home and the school has been very positive and helpful. It has taken less time for the new pupil to become adjusted to the new demands and facilities used in his educational program and he has entered more rapidly into the environment of satisfactory experiences. It is a most useful and worthwhile department.

Your attention is called to *The Education of Visually Handicapped Children* by Ralph Vickers Merry, Consultant in Child Guidance, Dayton, Ohio. This book is published as the nineteenth volume of the Harvard Studies in Education. It may be obtained from the Harvard University Press, Cambridge, Massachusetts. The price is $2.50. Further discussion of this book will be contained in the September issue.

The Handicapped Child, the report of the Committee on the Physically Handicapped of the White House Conference on Child Health and Protection, is now available. The book is published by the Century Company, and may be obtained at a price of $3.

FOUNDATION LIBRARY

"To What Extent Are Braille Children Educationally Handicapped?" is the title of an article by C. W. Ricksecker, principal of the Chaney School, Youngstown, Ohio, in *The High School Teacher* for September 1932, in which the author gives a report of a comparison between blind and seeing children in speed in writing, and in speed and comprehension in reading.

The National Institute for the Blind, London, England, has issued as its Bulletin No. 4 a "Handbook on the Deaf-Blind," which contains helpful advice to all who are engaged in teaching this handicapped class. It also includes addresses of English schools for the deaf and for the blind, which are supposed to be of help to the visiting teachers, gives the manual alphabet, and lists appliances useful to the deaf-blind.

The December 1932 *Welfare Bulletin,* published by the Illinois State Department of Public Welfare, offers "Training of the Blind" by Robert W. Woolston of the Illinois School for the Blind. This article is a survey of the training of the blind at the present time, special attention being paid to improvements in braille printing, and to appliances and inventions aimed at benefiting the blind.

The National Catholic Educational Association Bulletin for November 1932, which contains the Report of the Proceedings and Addresses of the twenty-ninth annual meeting in Cincinnati, Ohio, has four articles devoted to the education of the blind. One of these deals with physical education, one with the place of oral expression in the education of the blind, one with museums in schools for the blind, and the last with the Catholic tone in the education of the blind.

The *Volta Review* for September 1932 has an article by Ralph V. Merry, "Applying Psychological Tests to the Deaf-Blind." The author contends that mental tests, applied to the deaf-blind, may be of distinct value when given by someone with training, insight, and experience.

DOCTOR ALLEN SAYS:

THE AID A LITTLE PRINTERY CAN BE TO A SCHOOL

For about 40 years one of my hobbies was promoting tangible printing and appliance making. Actively carried on within the school, as this was in Philadelphia, it became an integral part of the life of the place. While its main purpose was to create both a working library of braille and the finger-reading habit, it grew to be also a prop and a pillar of the teaching corps. A visiting teacher who had dubbed our wringer a "wash-tub press" declared this printery to be "Little but oh, my!" and somewhat enviously admitted that we were turning out a vastly greater variety of immediately helpful material than was his institution's power press with all its superior prestige and other potentialities.

The influence of our school "printing office" was indeed extraordinary. Fancy no American Braille books available in 1891 and in five years a goodly library of them at hand, with a librarian in charge. But so much else did it contribute, besides making classroom appliances, table games, and repairing braille-writers, that in my annual report of 1897 I summed this up under the caption, "Application of the Stereotype-maker to School Work." It embossed the texts teachers chose and in the form desired —whether books, pamphlets, or advanced sheets. It furnished fugitive and illustrative material, such as words for sentence-building, gems of verse, valentines, arithmetic examples, outline paper maps in quantity, diagrams and figures for geometry and physics, letter forms and model addressed envelopes, sample business and cash-book pages, programs for special occasions, calendars, floor plans, examination questions, and library lists. It equipped our specialist in expression with the necessary "pieces"; it made possible daily study hour for all, also Sunday silent reading periods. It supplied the words and music of all hymns and carols sung at "prayers," and otherwise saved tedious hours of dictation and copying. For an occasional pupil, fitting for college or attending the University, it embossed his required special texts, not excluding those in French and German. Under my successor the printery likewise equipped his increasing number of extra-mural students until volunteer readers largely supplanted it. Yes, that "wash-tub press" was a friend indeed and is so still.

On several occasions we set up our portable machinery at city shows where we turned out braille alphabet sheets and maps by the thousand, which the crowding and curious public eagerly carried off. In this way our treasure of a little printery publicly demonstrated how simple a matter it is to produce tangible school supplies; and by lifting the education of the blind in local estimation it indirectly served our whole cause.

Although today our classes are richly supplied with embossed books and pretty well with other tangible aids, I feel that every school of ours should contain a ready means of adding new illustrative material as needed; in fact, that no school can afford to be without some sort of laboratory equipped to serve as teacher's assistant.

Elaborate equipment is unnecessary. A good wringer and either a braille-writer with deepened pits for embossing thin aluminum plates, or the Garin method of making durable plates of brailled sheets; or knowing how easy it is to make plates for paper outline diagrams and maps—little more is needed by the live and resourceful teacher to save her from the pitfalls of dependence and routine, since contriving and making will quicken and develop her creative faculty and so add zest to all her teaching.

THE PHIPPS UNIT AND THE DEAF-BLIND

PART I: HEARING THROUGH BONE CONDUCTION

MILDRED KENNEDY AND FLORENCE A. BROWNE

The question is asked, Why use bone conduction when the natural way to hear is through air? In answer to this let us consider the elementary principles involved in sound transmission as employed as an aid to the deaf.

Sound is a wave motion transmitted through a medium, whether gas, liquid, or solid. This motion is an actual movement of particles of the media. When we speak of hearing sound, the wave motion of matter is not sound until interpreted as such by the auditory apparatus. Normal hearing is through air; bone conduction hearing employs a solid matter. The ear phone and the loudspeaker are air conduction instruments. The bone conduction instrument in principle is not unlike the air conduction type, but, instead of the moving stylus transmitting motion to a diaphragm, its motion is transmitted directly to the bony structure of the head. The sound is still a mechanical vibration even after it enters the bone of the head. Although bone is an extremely good conductor, the amplitude of vibration is small and in addition is rapidly damped or diminished. A person with normal hearing requires hundreds of times more energy through bone than through air to produce the same sensation of loudness.

With impaired hearing we find that the energy necessary for air conduction hearing increases rapidly with increase in hearing loss, *but* the energy required for satisfactory bone conduction hearing may remain the same or increase only slightly. If the loudness or energy of a sound is increased above a certain level, the person experiences an actual physical sensation of the sound; that is, he feels it at the same time he hears it. This effect is accompanied by both nervous and physical fatigue. If the subject requires such a degree of loudness in order to hear through air, the bone conduction path becomes the more practical, pleasing, and efficient way of hearing.

Distortion of sound from a defective middle ear is eliminated by bone conduction, which seems to detour the sound around the defective parts. Sudden loud sounds heard with the air conduction receivers may be very unpleasant, even causing the person to actually "feel" the sound hurt the ear. These same sounds through a bone conduction device do not produce the same annoyance. The subject may even feel the vibration of the stylus, but not be disturbed by the sensation of hearing produced. It is interesting to note that these vibrations around the ear may cause increased circulation with an accompanying increase in the activity of the ear mechanism.

Scientists warn against loud and continuous sounds, citing industrial noise as a cause of deafness. Subnormal ears are more sensitive to loud and unexpected noise *through air* than normal ones; yet even with loud amplification through a properly constructed bone conduction instrument, naturalness of the fine gradations of sound production and tone balance can be retained. Bone conduction is a safe and comfortable medium through which to convey the loud sounds necessary to awaken and train dormant hearing. It is important that this sound shall be clear, rich, and mellow, not only for the physical well-being of the pupil but to establish in him a correct and high standard of tone production.

The contrasting qualities of tone are produced by the four groups of orchestral instruments: string, woodwind, brass, and percussion. Generally, subnormal ears hear one instrument better than another, because of its quality or its range of frequencies. Often the deaf are unable to hear

an instrument played alone, yet can hear it when it is accompanied. This may be a similar reaction to that of the deaf who hear the spoken voice better when there is an underlying vibration of sound. Until the hearing mechanism becomes responsive and balanced, individual preference of tone quality expressed by the pupil should be respected.

Air conducted sounds follow just one route, through the canal to the ear drum; bone conducted sounds travel easily and so there are many points for hearing contact. One with normal hearing, closing both ears tight, can hear distinctly by holding the stylus on the top of the head, against the cheek bone, at the base of the brain, on the shoulder or ribs, up and down the spine, or on the tip of the big toe. The ease with which the deafened hear in ten positions around the ear, varies with the type and degree of deafness. Some can hear better in one position than another; even an eighth of an inch variance may mean hearing or not hearing.

With profoundly deafened adults, who have memory of sound, progressive changes in bone conduction hearing may be anticipated through data obtained during intensive experiments. Those who have never experienced sound do not know what they hear, nor can it be ascertained that they are hearing; only after prolonged periods of training can the tests be applied which prove whether or not there is sufficient auditory response to justify further instruction.

A progressive system of training may develop the hearing from mere sensations of vibration to correct, keen, and rapid interpretation of speech—the ultimate goal. The system improves intonation, articulation, and the rhythm of speech and develops the mental ability to imitate correctly the singing and speaking voice.

The hearing develops in the following sequence: (1) vibration, (2) rhythm, (3) perception of musical tones in solo or in harmony, (4) perception of the singing and speaking voice, (5) differentiation and interpretation of these sounds. This is accomplished by comparing two contrasting processes or dissimilar parts of one process.

A bone conduction instrument can be used as a tactile instrument where there is no hearing; vibration and rhythm being sensed and enjoyed without sound, the stylus held between the thumb and fingers. In these profound cases of deafness the fingers are more sensitive to interpret vibration than any part of the bony structure of the head.

Sound is perceived as a *different* sensation from vibration, higher tones being distinguished from lower. Sustained tones of an instrument or singing voice are heard and interpreted with less effort than spoken words which are monotonous, lacking in color and rhythm, having little appeal for the deaf or the profoundly deafened. Words are beautiful only as their meanings are associated with their sounds. The words "lovely" and "ugly" through association of ideas actually sound to the ear what their meanings convey.

Persons who have always heard may find it difficult to realize the enrichments for the deaf-blind and deafened-blind made possible through amplified sounds by means of bone conduction hearing. It is the privilege and responsibility of educators to give to deaf-blind children the finest music and the clearest enunciation, with colorful intonations and beautiful phrasing of rhythmical and practical language. The teaching of sound in its purest aspect is, in itself, an art.

PART II: USE OF THE PHIPPS UNIT AT PERKINS INSTITUTION

Inis B. Hall

In the preceding section Miss Kennedy and Mrs. Browne have explained the principle of hearing through bone conduction. It remains for me to give a brief description of the Phipps Unit, which makes use of this principle, and to illustrate its value

in the training of the deaf-blind.

The Phipps Unit is a brown metal box, 1¾" x 2" x 2¼", with a metal arm projecting about one inch from one side. On this arm may be placed different types of metal styli for listening through the teeth or bone. Through another side runs a long cord which may be directly connected to any radio for receiving programs over the air. For transmission of phonograph records the unit must be plugged into a special cabinet containing the power generator. This cabinet when equipped with a microphone can be used with the unit for general conversation by bone conduction. Our generator has been made for schoolroom use and has power to carry ten individual units.

Into the lives of our deaf-blind pupils at Perkins who have heretofore been moving in a world of darkness and utter silence has come the song of birds, the laughter of children, the ticking of the clock, the voices of friends, and the harmony of music. They are receiving the echo of all nature through this Phipps Unit.

If it brought our pupils nothing more than the joy of hearing, the device would be well worth all the loving thought and effort expended. But to those in "the dark silence" it is more than an aid to hearing; it tells something of what is taking place in the busy whirl of human life about them; it helps to awaken and stimulate a more natural expression of speech for those who have no other means of receiving sound; and for those with some perception of sound, it increases the range of hearing.

Five pupils are now taking work with the Phipps Unit, and we have had three others, of whom I shall write first. These three were girls who had a great deal of hearing, but who were finding it extremely difficult to follow intelligently the general work of their classes. Two of them came for one period of hearing stimulation each day, and the third received a little more time. In two months all three girls had been decidedly helped.

M——, who had been bothered with a ringing sensation and some discharging from one ear, experienced a clearing up of this condition. K——, whose difficulty had been caused by continuous colds, was entirely relieved. Her hearing now seems normal. We do not know the cause of R——'s trouble. She had had much greater difficulty in hearing than the other two pupils and, because of this handicap, was not keeping up with her studies satisfactorily. Now she has no trouble in getting her class work.

The five pupils who are now using the Phipps Unit are all being helped, and find great enjoyment and amusement as well.

There was a time when Ch—— could not come for this period of stimulation. She had several colds, and we feel that she also became discouraged and indifferent. Her hearing seemed decidedly worse upon her return, but after a few hours of work with the unit there was a noticeable awakening and improvement.

Cl—— is a boy thirteen years of age who came to us last fall. We were not able to begin our work with the Phipps Unit this year until December. Since that time, however, Cl—— has used every possible opportunity for listening through the unit. He began at once to realize a great amount of pleasure and a sense of companionship from its use, and soon told me that he was hearing better in general. A test, using a natural speaking voice in a room where all was quiet, showed that his hearing range through air had been extended, in the right ear from four feet to fourteen feet, in the left ear from two feet to eight feet.

When we first began our work with Ea——, he was having a great deal of annoyance from watering of the eyes. He also had dizzy spells and his eyes would not stay open. He had no hearing—through air—in his left ear. All conversation was carried on by talking, very loudly, directly into his right ear. By use of the Phipps Unit, we can talk to him in a low conversational tone, and he receives everything

clearly. By talking to himself through the microphone, Ea—— is improving the richness, flexibility, and normal pitch of his voice. His hearing through air has been extended in his right ear to fourteen inches, and he can now understand words spoken in his left ear. Again, it is to the stimulating influence of the Phipps Unit that we give credit for the greatly improved condition of Ea——'s eyes. The watering and dizziness have ceased, and he keeps his eyes open with no conscious effort.

Our other two boys are Winthrop C. Chapman ("Tad"), seventeen years old, and Leonard Dowdy, our five-year-old "baby of the group." These two have no sight perception and receive no quality of hearing through air. Tad was deprived of these faculties at about the age of three and a half years, through the effects of spinal meningitis. Even his memories of sight and hearing were seemingly obliterated. Since then his speech and speech reading have been built up through the tactile sense. He now habitually picks up speech by placing his right hand over the left cheek of the speaker, with his thumb near the corner of the mouth. By this means he receives his instruction and makes outside contacts.

We have not deemed it wise to take time from Tad's school work to attempt to build a hearing vocabulary for him through bone conduction, although we know that he hears and appreciates all forms of music as it is brought to him "through bone." He enjoys hearing the voices of his friends as they talk or sing to him through the microphone, and often asks to talk to himself—a thing which we are most eager to have him do, because it helps his modulation and pitch. He enjoys comparing voices and telling which are higher and which lower. Often we play some song which he has learned to know and then have him pick up the words in different places to see if he has learned to associate the word-sound with the word already learned through touch. We find that he can do this with very little trouble.

Before we had the Phipps Unit, Tad could follow many songs when played on the piano. This he did through vibration; but when we played these same things for him over the unit, he did not recognize them. "They are different," Tad would often say. Tad has naturally picked up several expressions of salutation and a few sentences by the new method. The following questions, which he asked Mrs. Browne indicate how much the unit has come to mean to him: "Shall I always, always have a Phipps Unit?" and "May I have one to take home with me this summer?"

We expect, in time, to build up a hearing vocabulary for Leonard through bone conduction, so that much of his education may be given him in this way. If this can be done, it will greatly simplify our speech and language problems. Through bone conduction he now gets rhythm, several words, and commands. He often asks for the unit, and in many ways shows that he enjoys it.

The Phipps Unit is a "friend" to the deaf-blind and has brought great joy into their lives.

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introduce more variety. The practice of making periodic ratings should assist the teacher in directing her attention to those traits which most need supervision and in commending all efforts in which the child tries to make socially acceptable adjustments. In order to make the desirable attitudes permanent and to redirect the undesirable ones, it would be helpful to send to parents prior to vacations reports indicating good traits, those showing improvement, and those requiring further development. In this way parents might gain a more intelligent understanding of the objectives toward which the kindergarten teacher is striving and might cooperate with her by fostering desirable social attitudes in the home environment, since the kindergarten age is a most important period in the development of a well-balanced personality.

A SUMMER PROJECT FOR SCHOOLS FOR THE BLIND

Evelyn C. McKay

One of the recognized disadvantages of attendance at a boarding school or residential college is that the student may lose touch with his home surroundings and his local community. Such contacts as he makes with the community outside the school are likely to be isolated and sometimes artificial, rather than continuous and natural. Moreover, such contacts are usually with the community surrounding the school, and this, in most cases, is not the community where he will live after graduation. As a natural result, the boarding-school or college student, on leaving school, finds himself uprooted from the surroundings he knows, and forced to adapt himself to a community about which he has little or no practical knowledge, to new social groups and to different living habits. At best he faces a difficult task; at worst he wastes years in an effort at readjustment. Too often he fails entirely.

This situation existing in boarding schools for the seeing is by no means lacking in residential schools for the blind; in fact the problems of adjustment are likely, in them, to be intensified. The distance from which the student comes tends to reduce the amount of contact with the home community; the living conditions are likely to present more variation from his home than in the private boarding school for seeing pupils; and the blind student finds more difficulty in acquiring community information and making new social contacts when graduation forces upon him the need for readjustment in a new environment.

Nowhere is this more apparent than in vocational adjustment. To the unavoidable alteration in habits and thought practices, demanded in changing from the life of a student to that of a paid employee or business man, is added the problem of adaptation to a new social group. How many students on graduation have adequate practical knowledge of the communities in which their families live—knowledge of the community's population, its resources, its industries, its politics, or the agencies of social and community welfare? Yet without such knowledge, how are they to find satisfactory solutions to their vocational problems, and to settle down to the full and active participation in community life for which their education was intended to prepare them?

Certain schools for the blind, recognizing the difficulties of this transition, employ field agents whose task it is to maintain a contact between home and school, and to assist ex-students during the adjustment period. In many states, however, the provision of adequate field service of this type is impossible for reasons of distance and expense. How, then, can the school bridge the chasm which may otherwise lie between student and adult life?

The plan suggested here is based on the assignment of a "Know Your Home Town" project for a vacation period. It is intended for students of senior high-school age, but might be adapted in some of its phases for mature pupils in the junior high school.

Before the close of school for the summer vacation, the teacher directs the students to find out as much as they can about the communities in which they spend their vacations and to be prepared to report at the reopening of school in the autumn. The report may take the form of an essay, or of a talk given before the class or the assembled school.

Points suggested for particular attention may include:

History of the town

Population—number and race origins of inhabitants

Natural resources—conservation, development, etc.

Industries—raw materials used, processes involved, markets for products, geographic factors

Occupations—how do the people earn their living?

Business—functions and procedures of banks, stores, railways, etc.

Political situation—who are the principal officials? What are their duties? How did they get into office? What is the financial situation of the town and county? What is the tax rate?

Social organization—what agencies are available for financial relief? For education? For health service? For civic welfare? How are they financed?

The sources of information are legion—family, friends, newspapers, public officials, and leading citizens may all be tapped. The Chamber of Commerce and the public library provide material. The Kiwanis Clubs have as part of their vocational guidance program the volunteer service of leading business and professional men in explaining to students the duties and requirements of their respective vocations. Members of other civic bodies might do the same. The cooperation of the community will depend largely on the student's intelligence and sincerity of interest. The alert youngster eager for information, will rarely find himself refused.

It is not to be expected that any one student will cover all the suggested points adequately, but in that fact lies one of the advantages for the teacher since it provides an almost unlimited source of material for discussion and further study during the following year. Emphasis should be laid upon interpretation and relative importance as well as upon mere fact-finding. It is more important, for instance, for the pupil to understand why the taxes are higher this year than in 1929, than to know the exact amount of the last bond issue.

If this assignment seems to require too much of immature students, they might be prepared for it by a similar study of the community in which the school is situated, undertaken as a class project during the spring. It is also recommended that the teacher stimulate interest by occasional letters during the vacation period, even if these are no more than reminders. Correspondence between the students themselves might also be advantageous.

The project is capable of many modifications. It may be utilized as a project in history, in civics, in economics and business practice, in geography, or in vocational guidance, according to the emphasis laid on the respective phases.

In vocational guidance,[1] for instance, the student who lives in a village may undertake to list the occupation of every person in the community. This will undoubtedly bring to his attention not only the more conspicuous vocations, such as those of the storekeeper, the teacher, and the farmer, but will also disclose others which are likely to be overlooked—the postmaster, the barber, the poolroom manager. Back in the classroom the resourceful teacher will make use of such data in stimulating discussion of the duties, requirements, and social and material rewards of each type of work. It will at least serve to enlarge the horizon beyond the well-worn "doctor, lawyer, merchant" conception of vocational fields.

The student in the larger city may make a similar list for the block in which he lives, or for his circle of acquaintances. In all cases, of course, he should be encouraged to find out as much as possible about the occupation and the actual work it involves. By so doing, he will not only acquire knowledge of the practical world, but will here and there discover possible fields for his own vocational endeavors.

In addition to providing the student with a store of useful information, and the teacher with a wealth of material for classroom use, the project should be of value

[1] See also "Occupational Information and the Curriculum" by Howard C. Hill, *The Vocational Guidance Magazine*, March 1933, Vol. XI, No. 6.

for social experience. The contacts made by the boy or girl, while in pursuit of the necessary facts, will help to build up poise and social assurance, and some of the people encountered in this way may later develop into friends and advisers.

Moreover, in making such contacts, the blind student is laying the foundation for his later vocational adjustment in the community, since the people who know him already will be the more willing to give him employment when the time comes. And finally, he is provided with an unlimited and wholesome outlet for his energies during what might otherwise be an idle and empty summer of boredom.

The plan presupposes, of course, that the teacher is able to devote a good deal of individual attention to his pupils, and that he possesses, as well, a capacity for classroom stimulation and synthesis. At times he may find himself put to it to answer such questions as "How does one get to be a veterinary?" or "Why are the coal mines in our county closed?" But what teacher, worthy of the name, shrinks from adding to his own store of knowledge for the enrichment of his pupils' minds?

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subjects, but it is even more important that they should have the broad training afforded by a liberal and a cultural education. The consciousness of possessing the advantages of such an education gives the visually handicapped person that confidence necessary to enable him to cope with the competition of seeing people in whatever line of work he is following. In addition to this, a liberal education will make it possible for him to enjoy a richer and a fuller life as a result of an increased appreciation of the best in literature, music, and art.

The *Directory of Periodicals of Special Interest to the Blind* is the most recent publication of the American Foundation for the Blind. Copies cost twenty-five cents each.

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THE FOUNDATION'S TENTH ANNIVERSARY

The American Foundation for the Blind has just recently completed its tenth year of active participation in work for the blind. Its projects have covered many activities, not the least important of which have been those carried on relative to the education of blind children.

Throughout these ten years the Foundation has had certain educational objectives in view: First, to act as a medium of exchange of information for persons actively engaged in the education of the blind and for other interested friends; second, to develop new ideas and methods in the field of classroom procedure; third, to assist national educational movements in which the interests of blind children were involved; fourth, to make available certain types of objective material to schools for the blind; and fifth, to collect statistical material of use to instructors of the blind, which could be acquired only through some national organization.

Obviously the objectives themselves are of such a nature that they necessitate a

continuing service. As each new contribution has been made toward the fulfillment of any one of the objectives, through the completion of individual projects, the door has been opened to further research and enlarged activity.

Through the columns of *The Teachers Forum,* through general correspondence, and through the free use of its library of professional literature on work for the blind, the Foundation has met the demands of its first objective. Questions answered have ranged from simple ones such as, "How many schools for the blind are located in the United States?" to those which take months of preparation and study, such as, "Will you please outline a complete course of study for use in a school for the blind?"

The work of the Department of Special Studies, conducted jointly by the Foundation and Perkins Institution from 1927 to 1932 inclusive, furnished an excellent laboratory wherein questions of course-of-study content and classroom procedure could be observed and analyzed, and the relative value of various devices and appliances for the blind determined. The results of the experiments and observations have already been related in the columns of *The Forum.*

The Foundation has been active in serving the requirements of the other three objectives in many ways, among which are: contributions to the work of the White House Conference on Child Health and Protection, particularly in the field of the visually handicapped; distribution of project units of objective material to schools for the blind for classroom use; and publication of material dealing with the education of the blind, ranging in length from small brochures to articles of book length. Included in the latter group are such representative studies as: *The Blind Child and His Reading,* by Kathryn E. Maxfield; *Touch Reading of the Blind,* by Karl Bürklen (translated by Frieda Kiefer Merry); *From Homer to Helen Keller,* by Dr. R. S. French; "The Blind Child in the World of Nature," by Dorothy Dean Sheldon; "A Comparison of Blind and Seeing Children in Certain Educational Abilities," by Dr. F. F. Caldwell; and "The Dalton Laboratory Plan in a School for the Blind," by Helen Parkhurst and J. M. Ritchie.

The Foundation hopes that its services during this ten-year period have been of help to schools and instructors and that the burden of the handicap of blind students, because of the activities of the Foundation, has to some extent been lessened.

It is to be hoped that the meetings of the American Association of Workers for the Blind in Richmond, Virginia, June 26-30, will be well attended in spite of the depression. The Committee is doing everything in its power to provide a worthwhile program, there will be a most cordial host, Richmond itself is a beautiful city, and the temperature will probably be no hotter there than it has been known to be at convention time in Wisconsin and Illinois. Even though the number attending may necessarily be smaller than usual, this very fact may result in an even more instructive and enjoyable meeting than usual, since there is often a spirit of give and take in a small group which cannot be easily developed in a larger one.

Superintendents and supervisors are urged to give careful consideration to the candidates for positions whose names and records are to be found in the list of the students in the "Harvard Course" and the "Special Methods Course" which has been sent out by Miss Jessica Langworthy. There is excellent material in this group.

There are available a number of copies of the "Key to Braille Music Signs" prepared for the use of seeing helpers of blind music students. These may be obtained, at ten cents each, from Miss Marion Kappes, 2761 Woodbine Avenue, Evanston, Illinois.

The American Foundation for the Blind announces that arrangements have been completed for the manufacture of its new braille typewriter by a well-known typewriter manufacturing concern. Deliveries will not be made for several months, however. Further details regarding this improved model will appear in a future issue of the Forum.

Seventy-three new braille books are included on the latest printed list received at the Foundation offices from Dr. H. H. B. Meyer, Director, Project, Books for the Blind, Library of Congress.

Included in the list are thirty-nine non-fiction and thirty-four fiction titles. They represent the "Books-of-the-Minute" to date and other recent books, and continue the policy of this department to give blind readers the best literature that is being currently discussed. In the non-fiction section it is interesting to note that French's book *From Homer to Helen Keller* has now been put into braille.

LOAN COLLECTION OF PROJECT UNITS

For the past few years, the American Foundation for the Blind has loaned a group of project units to schools and classes for the blind throughout the country. When the work of gathering together these units was started, it was our purpose to establish a diversified array of objects to be loaned, on the order of a traveling museum.

At the present time we have six projects available for loan purposes. These are: asbestos, showing the product in its various states of development; paper-making, illustrating the making of paper through the respective stages of its manufacture; pearl buttons, consisting of the many kinds of shells from which buttons are made, and the buttons themselves in all stages of their refinement; rope, showing the manufacture of rope from the beginning to the finished product; rubber, giving samples of rubber as they come from each factory process; and zinc, showing the types of rock from which it is obtained and samples of the finished metal.

Informational material about these projects has been compiled and is distributed both in inkprint and braille together with the projects themselves. These projects are loaned for periods of one month each to any school or class desiring them. The informational material may be retained. The only charge to those borrowing them is the postage necessary to return them to our office. Since we have only one of each unit, requests are filled in the order in which they are received.

As soon as possible, other units will be added to this collection. These will include such subjects as the duck and fowl, fly, frog, pencils, and others. Requests for the loan of these projects should be sent in to the Foundation as soon as possible.

Our Contributors

Mr. Leo J. Flood has taught Latin at the Illinois School for the Blind for many years.

Mrs. Frieda Kiefer Merry, formerly Supervisor of the Department of Special Studies at Perkins Institution, is now connected with the Child Guidance Clinic in Dayton, Ohio.

Mr. Mendus R. Vevle of the School for the Blind in Minnesota is one of the newer superintendents in our field.

Miss Mildred Kennedy and Mrs. Florence A. Browne have for a long time been deeply interested in the welfare of the deaf. Mrs. Browne is the discoverer of the value to the deaf of the Phipps Unit, which was originally designed for quite different purposes. Miss Kennedy is the founder of the Speech Readers' Guild in Boston.

Miss Inis B. Hall has charge of the Deaf-Blind Department at Perkins Institution.

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The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

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INDUSTRIAL ARTS IN A KINDERGARTEN OF A SCHOOL FOR THE BLIND

ADELLE MOWRY

Can the blind child formulate and carry out his own ideas with regard to the use of building materials? Two years ago I decided to experiment with the kindergarten children in using hammer, nails, saw, and wood. I felt that the kindergarten in a school for the blind, like the kindergarten in a school for the seeing, should build up the right work attitudes and habits, and it must be done by creating stimulating situations in which the child may learn through doing. The child needs opportunity for the exercising of his creative imagination. Construction work rightly planned gives the child an opportunity for independent thinking and puts purpose into his efforts. The blind child gains his impressions of the material things about him chiefly through his sense of touch. It can easily be seen that wood work, where he can experiment with materials, is a most satisfactory medium through which to develop physical coordination and clarify his ideas.

A small-sized work bench with a good vise was installed in the kindergarten. This was supplemented with nails, hammers, and a saw. These things, with a good supply of soft wood of various lengths and thicknesses which were secured from the carpenter shop, roused the interest of the children and stimulated many individual building projects such as airplanes, wagons, trucks, and wheelbarrows.

The children at first needed a great deal of help in using the saw. Standing behind them with their hands in mine I guided their first efforts in wood sawing. It was surprising to see how quickly the children caught on to the movements and learned to saw the wood by themselves. In handling the hammer I found it necessary to hold the boards in place so that the children might be able to keep one hand on or near the nail while they hammered with the other. Sometimes it was necessary to start the nail for them. However, as they became more familiar with the work and ways of using the tools they were able to go ahead with very little help and turn out some excellent work.

The following is an illustration of how an incident was used and enlarged upon in stimulating the interest of the children in a group building project. One day the superintendent gave the children of the kindergarten a doll. The doll was discussed by the group and many suggestions and ideas were expressed in regard to its care and housing. Some of the girls and boys decided to make clothes for her while others decided she must have a place to eat and sleep. One suggested making a bed out of wood and another, making a table and chairs.

We made a trip to the carpenter shop where the necessary wood was obtained. The wood was marked with a nail indentation and sawed into lengths necessary for the particular piece of furniture each child was making. The bed, table, and chairs, when set together, were sandpapered by the children and painted by myself. Later some of the children learned to do their own painting.

One child found two semicircular halves of a wooden tub lid. He conceived the idea of nailing these halves to a chair he had made, thereby converting it into a rocking chair. An orange crate with a curtain served as a cupboard. The girls made mattresses, pillows, sheets, and pillow cases for the bed, and oilcloth mats for the table and cupboard.

Recent tendencies in education have emphasized the importance of giving the child sufficient opportunity for self-directed effort. It is a recognized fact that when a child is engaged in self-expression he is very happy. There is no better way to stimulate a child's interest and originality of

thought than through the use of such materials as hammers, nails, wood, pasteboard boxes, wrapping paper, orange crates, scraps of cloth, spools, and typewriter ribbon wheels.

Many interesting things can be made from these materials. As an illustration, just before Christmas gifts were made for "daddy and mother." Wastebaskets were made of cardboard, mats were made of oilcloth, and bookends, doorstops, and letter racks were made of wood. The wastebaskets were made by punching holes in the sides of four pieces of cardboard of equal dimensions. These were then laced together with yarn by the children and tied at the bottom to a square piece of cardboard punched at the corners. In making oilcloth mats, pieces of oilcloth were cut about eleven inches in length and eight inches in width. Slits were cut about four inches from the ends just wide enough for a strip of colored oilcloth to be woven through. The mats were fringed by cutting into the ends with scissors. The bookends were made of two pieces of wood of the same length, the width of the base being equal to about half of the height of the side. Letter racks were made of a fairly thick wooden base with two thinner sides. The doorstops consisted of a block of wood tapered on one side to a thin edge, with a small upright panel nailed to the thicker side of the block. Pasteboard boxes of all kinds were used to make doll carriages, wagons, cradles, houses, barns, etc.

The following is an illustration of how pasteboard boxes and other materials were used in a farm project. This farm project was carried out on the sand table. The children made a house, a barn, and a bridge out of pasteboard boxes and set them at appropriate distances in the sand. Oats were planted, which later came up "nice and green." Men and various farmyard animals were made of plasticine. Pebbles were used to build a walk from the house to the pump, which was made of plasticine. Trees and chickens were cut out of heavy paper and set up in the sand. The barnyard fence was made of small sticks stuck in the sand. The silo was built out of a circular cardboard tube on the top of which a roof was built out of braille paper shaped into a cone.

Another building project started in the following manner. On one of our excursions we visited a grocery store. This filled the children with the desire to build a grocery store of their own. A dozen orange crates which I secured from the grocer served as the building material. The building was constructed by placing the orange crates side by side and on top of each other. When this was done the building was completed by using heavy wrapping paper to cover the slatted exterior of the crates. Empty cans and boxes served as merchandise and clay was moulded into fruit and candy.

One boy built a truck and this stimulated some of the others to make a wagon and a bus. Wood taken from orange crates was the material used. The boy who built the bus suggested building up the sides, putting in seats, and adding a radiator. Spools were made to serve as radiator cap, headlights and tail light. Another boy conceived the idea of making a wheelbarrow. A board was cut in triangular shape with a blunt point. Then boards were nailed to the long sides, projecting beyond the blunt point, leaving a space sufficiently wide for the insertion of a wooden wheel which was made by the carpenter. Two sticks equal in length served as legs and another two nailed to the sides served as handles.

One can easily see the real value of this type of work in the kindergarten. The child familiarizes himself with material things at an earlier age than he ordinarily would. This enriches his experience and, needless to say, broadens his conception of the material world about him. The child sets up his own goal. The problems involved in reaching this goal stimulate original thinking and develop his creative ability. Solving his own problems is good training for later life. It also offers unlimited opportunity for socialization and cooperative effort.

THE SILENT READING HABITS OF BLIND CHILDREN

B. F. Holland and Pauline Fertsch Eatman

Problem

The purpose of this paper is to describe and report the results of an experiment designed to throw light on the mechanics of braille reading. The specific object of the experiment was to discover, by means of moving picture records of finger movements, the differences in the performances of good and poor readers in school grades 3, 4, 6, 7, 8, 9, and 11, and to analyze the procedures of individual subjects.[1]

Technique

The moving picture records were obtained for this experiment by mounting a camera above the subject's hands and photographing the fingers as they moved along the line of braille. The camera was operated mechanically by means of a constant-speed motor so as to make an exposure every fifth of a second, preliminary experiments having shown that this speed was fast enough to get a record of all the significant movements of the fingers. By means of a projecting device the records obtained in this manner were superimposed upon the material read, and the positions of the fingers in each exposure were located and marked under the line of braille. Since the exposures were made at constant intervals, the number of exposures per unit of material read was used as the measure of the speed of reading. The entire process of projecting and recording finger movements was very similar to that used in projecting and recording eye movements in reading. The details of the process have been described by the writers in a previous article.[2]

Subjects

The subjects selected for the experiment were twenty-eight children, four from each of the grades mentioned above. According to the judgments of the teachers of reading, two subjects from each grade were "good" readers and two were "poor" readers. The judgments of the teachers were subsequently checked by standardized tests and found to be substantially correct.[3]

Procedure

In making the records of finger movements, care was taken to make the conditions essentially the same for each subject and to make the reading situation a normal one. The subjects were directed to read the material once and, at the end, to pronounce or call out a word left out of the selection. The verbal response given by the subject was used as a check on his comprehension of the material. The test selection was taken from the Stanford Achievement Test from the level of difficulty generally reached by eight-year-old children. The total time required for the experiment was about ten minutes for each subject.

Results and Interpretation

The data yielded by the experiment make possible a comparison of the performances of good and poor readers, as well as an accurate analysis of the method of reading employed by any given subject. The measures which make such a study possible are the following: (1) the total number of exposures per line; (2) the average number of braille cells read by the left and right hands independently; (3) the time spent by

[1] The study being reported was made by the writers in 1931-32 at the Texas School for the Blind with the cooperation of Superintendent W. E. Allen and his corps of teachers. Mr. Allen and his teachers made many helpful suggestions and assisted particularly in providing and selecting subjects.

[2] Holland, B. F. Special Apparatus in the Laboratory of Educational Psychology, University of Texas. *Am. J. Psychol.* Jan. 1933.

[3] To check the judgments of the teachers, all of the subjects were given the Otis Classification Test, Part II, Form A, adapted for use with the blind by Ruth Sargent, and the Stanford Achievement Test, Reading Examination, adapted for use with the blind by Kathryn E. Maxfield. The scores on both tests indicated that the teachers' judgments were highly accurate. The correlation between the scores on the two standard tests was +.641.

the subjects at the beginning and end of each line; (4) the number of regressive movements; and (5) the time spent by the subjects in making "return sweeps."

It will be recalled that the unit of time in this study is one-fifth of a second, which is the amount of time elapsing from one exposure of the camera to the next. The data are presented in the following tables, which show, in separate columns, the results for the four subjects, and for the two good and two poor readers separately, selected from each grade.

Table I shows the average number of exposures required to read the experimental selection.

TABLE I
AVERAGE NUMBER OF EXPOSURES REQUIRED TO READ THE EXPERIMENTAL SELECTION

Grade	Four Subjects	Good Readers	Poor Readers
3	244.75	142.0	347.5
4	237.50	192.5	282.5
6	179.75	151.0	208.5
7	151.25	147.0	155.5
8	150.75	145.0	156.5
9	228.50	158.0	299.0
11	147.00	127.0	167.0

It may be observed that the time required by all four subjects to read the selection is somewhat irregular. The average time for grades 3, 4, and 9, for example, is markedly greater than the average time for grades 7, 8, and 11. The excessive amount of time shown in the averages for grades 3 and 9 may be accounted for on the basis of the fact that the two poor readers selected in these grades were unusually slow.

Differences between the good and poor readers may be observed in the third and fourth columns. Here it is apparent that in each grade the good readers read the selection in less time than the poor readers. It may also be observed that the time required by the good subjects in each grade to read the selection is approximately the same, except in grade 4, whereas the time required by the poor readers in different grades is strikingly different, there being a marked decrease with each grade up to the seventh. The poor readers in the eighth grade read at approximately the same speed as those in the seventh, but the poor readers in the ninth and eleventh grades read at a slower rate than those of the seventh and eighth. The unusually poor readers in the ninth grade required more time to read the selection than did the poor readers in the fourth grade. The data for the good readers, considered as a whole, indicate that some good readers, at least, master the mechanics of braille reading early in their school experience. The data for the poor readers, on the other hand, indicate a slower development in the mastery of the reading process. Some poor readers, as those indicated by the data for grade 9, appear to experience difficulties in reading regardless of school advancement.

A more detailed study of good and poor reading of blind subjects is made possible by the data in Table II showing the average number of exposures for each line.

The data in the second column showing the average number of exposures per line for all of the subjects reveal that lines 3 and 11 required the greatest number and line 2 the least number of exposures per line. The time required to read the other lines does not vary to a marked degree. The extra amount of time required to read line 3 appears to have been due to an unfamiliar

TABLE II
AVERAGE NUMBER OF EXPOSURES PER LINE

Line	Four Subjects (per grade)	Good Readers	Poor Readers
1	13.91	10.75	17.06
2	13.56	10.87	16.25
3	18.00	16.12	19.87
4	15.59	12.50	18.68
5	14.50	11.81	17.18
6	16.09	12.81	19.38
7	16.31	13.38	19.25
8	15.38	12.93	17.81
9	14.22	11.88	16.56
10	14.00	11.75	16.25
11	21.16	18.06	24.25
12	16.94	15.00	18.88

grammatical structure. In line 11 an erasure had been made on the braille sheet used in the experiment which caused each subject to stop an appreciable amount of time. It is interesting to note that the attention of both good and poor readers was arrested by these irregularities in the material. A comparison of the third and fourth columns will reveal that the good readers read each of the different lines in considerably less time than did the poor readers. A further study of these columns will show that the amount of difference between the time required to read each successive line is less for the good than for the poor readers. The average difference in time between the lines is 1.11 fifths of a second (number of exposures) for the good readers and 2.14 fifths of a second for the poor readers. Thus it seems that the performance of the good readers is more uniform and continuous than that of the poor readers.

An interesting feature of braille reading is the use which the various subjects make of each of their hands. A study of this feature was made by examining the records to determine how much and what part of the material was read by each of the hands considered separately. In the records obtained both hands appeared in each exposure, but they were not always close together nor being used in sensing the same content. The index finger of one hand might be on one line in the selection, that of the other hand on another line. Hence it was possible to determine the portions of the material read by each subject by each of the hands considered separately. The data collected by this study assist in the analysis of individual methods of reading. The data are exhibited in Table III showing the average number of exposures made for each hand in reading the various lines in the test selection.

Here it may be seen in the figures for the four subjects that in nearly all the lines slightly more exposures appear for the left than for the right hand. The same tendency is found in the data for the good and poor readers, but it is more marked with the poor readers. This difference may be explained in terms of the different methods of reading employed by the various subjects; the records seem to show that some readers prefer to read with the left hand, others with the right, and still others seem to read without preference. Those who have a definite preference for one hand or the other seem to use the preferred hand in getting tactual experience and the other as a guide in finding and keeping on the line, or they may read with the preferred finger without any assistance from the other. Some readers,

TABLE III
AVERAGE NUMBER OF EXPOSURES FOR EACH HAND

Line	Four Subjects (per grade)		Good Readers		Poor Readers	
	Left	Right	Left	Right	Left	Right
1	10.84	11.16	7.93	8.50	13.75	13.81
2	10.69	9.94	7.87	7.69	13.50	12.19
3	14.44	14.44	12.37	13.44	16.50	15.44
4	12.53	11.19	9.50	8.37	15.56	14.00
5	11.53	10.84	8.75	8.81	14.31	12.88
6	12.97	12.50	9.62	9.19	16.37	15.81
7	13.34	12.38	10.62	9.81	16.06	14.93
8	12.91	11.75	10.19	9.75	15.43	13.75
9	11.22	11.06	8.89	8.75	13.56	13.37
10	10.88	10.47	8.89	9.19	12.88	11.75
11	17.84	15.58	16.00	16.00	19.68	19.12
12	14.00	13.12	12.12	11.12	15.87	15.12

however, who use both index fingers may exhibit a preference for one or the other. In these cases the finger which is in front appears to sense the fundamental aspects of the braille stimuli and the other the detailed aspects; that is, the finger which is following checks the sensory data of the one that is ahead. This type of reader may read with either finger in an efficient manner, but apparently he can read more efficiently with both fingers.

Some readers who use both hands without a marked preference develop a method of reading that enables them to gain much time. When both begin a line together they may proceed close together across the page to about the middle of the line. At this point the left finger comes back to the beginning of the next line while the right continues along the first line. When the right finger has finished the first line, it comes back on the second and meets the left finger at some point further along the line. The amount thus read independently by the left finger varies in different individuals from a few letters to perhaps several words. Only a few readers exhibit this method to any great degree, though nearly all two-finger readers employ it to some extent. Apparently in this type of reading the continuity of thought is unbroken through the use of first one hand and then the other. The gain in time results from the fact that no time elapses in the reading process in making return sweeps.

A further analysis of the different methods of reading may be made from the data in Table IV which shows the number of braille cells read independently by the right and left hands. The braille cell is used as a measure of the amount of material read because it is a constant unit.

The significant fact disclosed by the table is that of 274 cells in the selection, a relatively large amount of the material was read by each index finger independently in all the grades. The data for the good and poor readers seem to show that the good readers read more material with each finger considered separately than did the poor readers. The large number of cells shown to be read by the right hand by the good readers in the third and eighth grades and by the poor readers in the sixth and seventh grades is due in each case to the fact that one subject in each of these grades read almost entirely with the right hand. The large number of cells read by the left hand by the poor subjects in the fourth grade is due, likewise, to the fact that one of the subjects read almost

TABLE IV

AVERAGE NUMBER OF CELLS READ BY LEFT AND RIGHT HANDS

Grade	Four Subjects		Good Readers		Poor Readers	
	Left	Right	Left	Right	Left	Right
3	26.00	65.75	34.5	119.5	17.5	12.00
4	74.75	31.00	31.0	61.5	118.5	0.50
6	27.74	100.50	30.5	89.5	25.0	111.50
7	35.00	97.25	45.0	94.5	25.0	100.00
8	17.50	96.50	19.0	161.0	16.0	32.00
9	15.00	17.00	19.0	26.0	11.0	8.00
11	35.00	50.00	59.0	86.0	16.0	14.00

entirely with the left hand. Hence, if the data were not to include the results for the one-finger readers, the differences being pointed out would probably be greater than they appear in the table. On the whole, then, Table IV shows that blind readers read a significant amount of material with both hands functioning independently, the amount of material read by the left finger being less than that read by the right.

The time spent at the beginning and the end of the line in reading the braille cells with the left and right fingers may be observed in Table V.

TABLE V

AVERAGE NUMBER OF EXPOSURES AT BEGINNING AND END OF LINES

Grade	Four Subjects		Good Readers		Poor Readers	
	L. Beg.	R. End	L. Beg.	R. End	L. Beg.	R. End
3	64.00	54.50	79.5	72.5	48.5	36.5
4	89.75	29.25	53.0	55.0	26.5	3.5
6	59.75	71.75	45.5	52.0	74.0	91.5
7	65.00	62.25	72.5	64.0	57.5	60.5
8	41.00	55.00	58.0	79.0	24.0	31.0
9	32.00	29.75	31.0	25.5	33.0	34.0
11	32.00	38.25	41.5	47.0	23.0	49.5

The data shown for the left finger represent the time spent at the beginning and those shown for the right represent the time spent at the end of the lines. Hence the averages for all the subjects show that more time was spent at the beginning than at the end of the lines. The good readers, however, spent less time at the beginning than at the end, and the poor readers spent more time at the beginning than at the end of the lines. The apparent inconsistency in the amount of time spent at the beginning and end of the lines and the number of braille cells read in this manner is due to the fact that in reading at the beginning of the line the left finger comes to a stop during which some time elapses while the right finger is making the return sweep. During this stop of the left finger the right is in continuous movement completing the previous line. As a result less time is spent in reading the larger number of cells at the end than is spent in reading the smaller number of cells at the beginning of the lines.

Table VI shows the number of braille cells read in each line by the left and right fingers separately.

Here, as in Table V, it may be observed that the good readers consistently read more material per line with the right than with the left finger. The difference in the case of most of the poor readers, on the other

TABLE VI
AVERAGE NUMBER OF CELLS READ IN EACH LINE BY LEFT AND RIGHT HANDS

Line	Four Subjects (per grade)		Good Readers		Poor Readers	
	Left	Right	Left	Right	Left	Right
1	2.43	5.68	2.86	7.86	2.00	3.50
2	2.89	5.47	3.21	7.93	2.57	3.00
3	2.86	5.33	2.93	7.93	2.79	3.14
4	3.07	5.92	3.07	8.14	3.07	3.71
5	3.36	6.32	3.36	9.00	3.36	3.64
6	2.56	6.50	2.61	8.93	2.50	4.07
7	3.25	4.29	2.71	6.29	3.79	2.29
8	2.96	4.25	3.00	6.21	2.92	2.29
9	2.46	5.00	2.21	7.14	2.71	2.86
10	3.14	7.07	3.43	9.29	2.86	4.86
11	1.60	5.82	1.57	8.64	1.64	3.00
12	2.71	4.68	3.00	6.29	2.43	3.07

hand, is slight, when compared with the difference shown in the data for the good readers. These facts indicate that the two fingers are constantly closer together in the performance of the poor readers than in that of the good readers. The greatest number of cells read by the right hand on any line is slightly more than nine for the good readers and not quite five for the poor readers.

As an example of reading independently with each finger when both hands are used, the record of an individual subject in Grade 11 will be described and contrasted with that of a subject who does not make use of this method of reading. Data for these two subjects are exhibited in Table VII.

Here it may be observed that T. S. read 74 cells with the left hand and 102 with the

TABLE VII
NUMBER OF BRAILLE CELLS READ BY LEFT AND RIGHT HANDS SEPARATELY BY A GOOD AND A POOR READER

Line	T. S.		E. T.	
	Left	Right	Left	Right
1	5	9	0	6
2	7	6	0	0
3	5	7	0	2
4	7	9	0	0
5	7	10	0	0
6	7	11	0	1
7	5	7	1	0
8	6	8	0	0
9	5	9	0	0
10	7	11	0	0
11	7	9	0	0
12	6	6	0	0
Total	74	102	1	9

right. This total number of cells read by the left hand is 27 per cent of the total amount of material, and the total number of cells read by the right hand, 37 per cent of the total amount of material. Thus the two hands read 64 per cent of the entire selection independently. The data for the poor reader indicate that a very small per cent of the material was read in this manner. The fingers of this reader were constantly close together. He appears to need the sensory experience from both fingers to interpret the material.

A further study of the performances in braille reading may be made by reference to Table VIII which shows the number of regressive movements made by various subjects. By a regressive movement is meant a movement of the finger in the direction opposite to the direction in which the subject is reading.

What takes place in a regressive movement is apparently a kind of re-reading of the portions of the line which were not clear to the reader in his first contact with them. The right hand at the time these movements are being made frequently remains still, making a longer pause than usual, or it may be moving slowly further along the line. Thus the principal facts regarding regressive movements are, first, that more regressive movements are made by the left than by the right hand, and second, poor readers make more of such movements than do good readers.

Another feature of braille reading which may be observed is the amount of time spent in making return sweeps, a return sweep being the movement of the hand from the end of one line to the beginning of the next. The data showing this aspect of braille reading may be found in Table IX which shows the amount of time for the left and right hands.

TABLE VIII

AVERAGE NUMBER OF REGRESSIVE MOVEMENTS FOR THE SELECTION

Grade	Four Subjects		Good Readers		Poor Readers	
	Left	Right	Left	Right	Left	Right
3	20.50	15.25	7.5	3.5	33.5	29.0
4	14.00	10.00	9.5	8.5	18.5	11.5
6	18.75	7.50	17.5	6.5	20.0	8.5
7	18.75	7.00	17.0	5.0	20.5	9.0
8	14.74	5.00	20.0	6.5	9.5	3.5
9	14.50	12.00	16.0	10.0	13.0	14.0
11	8.25	5.25	4.5	4.5	12.0	6.0

In this table it may be seen that a greater number of regressive movements are made by the left than by the right hand in practically all the grades and for both good and poor readers. Frequently the number of regressive movements made by the left hand is more than twice the number for the right. The good readers as a whole are found to make fewer regressive movements than the poor readers, though some poor readers make fewer than the good readers. The number of regressive movements made by a particular subject thus appears to be a significant indication of good or poor reading.

The average number of exposures indicates that more than two seconds of time are taken up by all of the subjects in making return sweeps. This average is between six and seven per cent of the total reading time. It is interesting to note that poor readers exhibit a type of behavior characteristic of their total reading performance in being slower than the good readers in making return sweeps. The good readers spend less time in making return sweeps with the left than with the right hand, whereas the poor readers spend more time with the left than with the right. The reason for this differ-

TABLE IX
AVERAGE NUMBER OF EXPOSURES USED IN MAKING RETURN SWEEPS

Grade	Four Subjects		Good Readers		Poor Readers	
	Left	Right	Left	Right	Left	Right
3	11.25	11.75	7.5	13.5	15.0	10.0
4	17.50	10.25	17.0	15.0	18.0	5.5
6	9.50	12.00	7.5	12.0	11.5	13.0
7	6.25	12.75	6.0	17.0	6.5	8.5
8	11.25	12.25	7.0	11.5	15.5	13.0
9	17.75	16.00	12.5	13.0	23.0	19.0
11	15.25	13.25	14.0	14.0	16.5	12.5

ence is that poor readers carry the left hand farther from the left end of the line close to the right hand than do the good readers, a type of behavior which requires a greater amount of time for the return sweep because of the greater distance the reader has to move his hand. Besides, the left hand returns more or less slowly because it is waiting until the right is ready to begin a new line. Similarly the right hand of a good reader requires more time to make a return sweep because of the greater distance it must cover from the end of one line to near the beginning of the next. The difference in the amount of time in some grades for the left and right hands is not great, but the general tendency suggested above appears to be present in the data considered as a whole.

Summary of Conclusions

The foregoing analysis of the reading habits of blind children by means of moving picture records of their finger movements reveals the following facts:

1. Regarding the amount of time spent in reading a selected paragraph, the data show that good readers in each grade read the selection in less time than the poor readers; that the amount of time required by good readers is practically the same for each subject and in each of the grades; that there is considerable variation from grade to grade in the amount of time required to read the selection by the poor readers.

2. Regarding the average number of exposures per line, the data show that there is very little difference in the amount of time required by the good readers to read the various lines, except in two instances; that poor readers show a marked difference in the direction of more time per line than the good readers; that the performance of poor readers is less uniform than that of good readers.

3. Regarding the methods of reading from the standpoint of hand preference, the results show that more exposures appear for the left than for the right hand for all subjects; that some readers prefer to read with the left hand, others prefer to read with the right, and others read with no particular preference; some readers who use both hands exhibit a preference for one finger or the other; some subjects read ahead on one line with the left hand while the right is finishing the preceding line and making the return sweep.

4. The records of the number of cells read by the left and right hands independently show that the average number of cells read in this manner varies; a relatively large amount of material is read by each finger independently in all of the grades; the good readers read more material with the right hand than do the poor readers; the amount of material read by the left finger is less than that read by the right.

5. The data showing the amount of time spent at the beginning and end of the lines show that more time is spent at the beginning

(*Continued on Page* 19)

DOCTOR ALLEN SAYS:

DAVID DUFFLE WOOD, ADMITTED IN 1907 TO THE ROLL OF PITTSBURGH'S GREATEST SONS, AS "MUSICIAN, TEACHER AND COMPOSER"

David D. Wood's character and career should be studied by persons inclined to doubt the full social competence of anyone totally blind from childhood. When he died at the age of sixty-two, he was at once organist and choir-master of both St. Stephen's Episcopal Church (from 1870) and of the Baptist Temple (from 1884, where he provided a substitute for the morning service), instructor of organ at the Philadelphia Musical Academy (from 1880), president alike of the American Organ Players' Club, and of the Manuscript Music Society of Philadelphia, music director of his Alma Mater, and recognized as one of the greatest interpreters of Bach. Most of the city's chief organists at that time—and eight of them were blind—had been his pupils.

This remarkable man came to the Philadelphia school for the blind at the age of five and a half years and remained till he was eighteen, when he left to make his way in the world. As a pupil he excelled in mathematics, pursuing it well into trigonometry and spherical geometry. He was early taught the theory of music, including harmony and counterpoint, without having systematic lessons on any instrument. At the age of fourteen he did have piano lessons, fortunately with the best of teachers, especially a young German who later added six months' instruction on the organ, but more vital than that, rescued him from broom-making, and inspired him to make a career in music.

When in the 1880's Dr. Wood took charge of the music of his school, he could spare it but two days a week. Nevertheless, his spirit pervaded the department; and he soon made the annual concerts of its advanced pupils musical events by employing players from the Philadelphia Orchestra as accompanists, just as he afterwards did for the great choruses he taught his pupils to sing, letter-perfect, at Musical Fund Hall.

In 1910, I wrote to our president, Mr. John Cadwalader, as follows: "The quiet, patient, forceful personality of Mr. Wood and his known ability and life success made him a great teacher and leader. His pupils were eager to please him; his assistants to support him. His chief power as an instructor at our school lay in the confidence he himself had in his pupils. This roused them to their best efforts. When determined, as he was in 1904, to train them to sing a difficult, and for them, unusually ambitious work of music, no words of unbelief from his teachers discouraged him. He persisted in teaching this—the Hymn of Praise; the performance was given in public; the capacity of the pupils was self-revealed; and his own faith in them justified. There followed oratorio after oratorio, each yearly performance raising the reputation of the school and helping to form public opinion regarding his dear people."

Dr. Wood was more than a teacher and leader; he was well-read, especially in literature, Milton being his favorite author, and he was a cultured man of affairs. All who knew him loved him for his modesty, his sincerity, and his worth. After his death, four of the organizations with which he had been most closely connected held memorial services in his honor. When he died the world lost a great personality of whom it was feelingly said: "No man ever bore a physical limitation with greater dignity."

CAN WE HELP OUR PUPILS TO SOCIAL SUCCESS?

SAMUEL P. HAYES

Education is bigger than "book-learning." Probably teachers will always consider the imparting of information and the development of skills as their main tasks but the social demands of the world in which our pupils must make their way cannot be neglected without serious consequences. Committees or bureaus that must "place" our graduates, and mental hygiene societies that advocate methods for the attainment of happiness in one's work, both insist that the child must be socialized as well as intellectualized. What can we do to help our pupils to form socially acceptable habits in school? Can we aid them to happier adjustments in the institution? Can we guide them in developing into socially desirable companions in shop and home?

Modern psychology is constantly insisting that we face the facts of life rather than dodge them, and one of the most important things to face is our own personality. Various devices have been invented to make it easy for us to compare ourselves with others and see how we measure up. In this series of articles a number of methods will be outlined which have been successfully used in schools and colleges. In each case a brief "sales talk" will be given which a teacher may read or summarize for her pupils, before attempting the use of the personality inventory or measurement presented. Extra copies of the device can be furnished in mimeograph form at Mt. Holyoke College, South Hadley, Massachusetts, on application to the writer, for distribution to students who may wish to use them in private.

How Can We Get People to Like Us?

This is a very practical question in daily life. As little children we expect our parents and our brothers and sisters to like us though we find even there traits that annoy other members of the family and call out frank protests. When we go to school our new companions look us over critically and it becomes necessary for us to make an effort to make sure they will like us. We can no longer take our popularity for granted. We must behave acceptably. Experiments with both boys and girls show that nothing makes us happier than to be judged attractive and nothing hurts quite so much as criticism from our companions. We all love to be popular and we appreciate every indication of our success. We are even willing to accept flattery, hoping that it is true. And when we are uncertain about our really deserving praise we are very likely to give ourselves the benefit of the doubt.

When we are ready to leave school and seek a position in life, one of the first things that has to be considered by the people who recommend us is whether we are likeable. What is our chance of a job if a kindly teacher must write about us like this: "I would say that his personality is not prepossessing. Most people are not attracted to him at first. I think he grows on one. He has the fine qualities of loyalty and delicacy of feeling that win respect and affection with longer acquaintance. But the first meeting is, I think, not nearly as likely to be favorable as I wish it were."

Now what can we do about this? Must we wait for some friend to give us a frank, perhaps a harsh estimate of our traits before we can know whether we have succeeded in making ourselves popular? Will we be entitled to a cordial recommendation when we seek a position? Various methods have been suggested for meeting this need.

Personality Inventories

We know what is meant by an inventory in the business world. At the end of a year a merchant can not tell whether he has made a profit or sustained a loss just by studying his bank account. He must also know the amount of merchandise on hand and its

probable value, to determine whether the sum total of his cash and his goods at the end of the year is more or less than it was at the beginning. Various personality inventories have been constructed which may be as useful in estimating our social success as the inventory of merchandise is to the business man in measuring his economic success.

We are told of a boy who felt that he was disliked but did not know why. He had wealth and accomplishments, dressed well, played the piano like a wizard, and was good in several forms of athletics. But his whole group disliked him—they told him frankly he was a "pain in the neck" but did not put their fingers on the reason for his lack of popularity. He studied an inventory of mental traits, found his weaknesses and went to work to correct them. In two weeks his friends found him changed, and soon everyone liked him. One of this boy's bad traits was "showing off his knowledge." He never spoke of salt; he called it sodium chloride (its chemical name). He did this partly in fun, but mainly to display his learning. Another bad trait was his habit of trying to get others to do things for him, so that he could slip out of doing them himself. Now of course there is nothing wicked about these traits, but both of them interfere with the formation of friendships, and in this case made the difference between success and failure.

With the permission of the author we are printing in this issue a personality inventory from Hepner's *Business Psychology,* 1931, p. 240. Other devices for analyzing oneself will appear in later issues of the *Forum.* Hepner's list of traits is intended especially for young men in business, but parts of it apply equally well to young women in business, and to both men and women in social life. The inventory may be used as Hepner suggests, having five or more acquaintances judge us and combining the results, or it may be used as a self-inventory. An ambitious young man might keep the sheets in a convenient place and check himself up every three months to note progress, just as the business man studies his weekly or monthly balance sheet.

HEPNER'S SURVEY OF OUTSTANDING TRAITS

Name of person to be analyzed.

The purpose of this blank is constructive.

Very few people know the characteristics in which they are strong. Nor do they know the ones in which they are weak. This blank is to be filled in by five or more individuals who know the person mentioned above.

The person mentioned above has requested this survey in order to enable him to understand himself better. The data which you and his other raters give him will be summarized and then given to the person rated. He will not know what any one person has said of him, because all the data will be mixed into one summary. Therefore, you can feel free to be frank, because you will know that your statements will be confidential.

You need not fear that you may be prejudiced for or against the person rated, because any prejudices will probably be counter-balanced by the other persons who rate him.

As you will note, the points to be considered are divided into two lists: Positive or Commendable Traits and Negative or Improvable Traits. It is realized that no person in existence has all or even most of the commendable traits. Nor is it expected that any person should have all of them. We also realize that each person has some of the improvable traits. However, if the person rated knows what his good points are, he may then be able to utilize his good points to greater advantage. Likewise if he knows the improvable traits, he can then improve or compensate for them.

Try to think of the outstanding characteristics of the person whose name is given.

Check or underline the points which you believe to apply to him. You can check as many or as few items under each heading as you wish. If you want to make any additional comments on some items, write them in the margin.

POSITIVE OR COMMENDABLE TRAITS	NEGATIVE OR IMPROVABLE TRAITS
	Physical Characteristics
Has very good health	Should improve his health
	Bad breath
Very calm in emergencies	Certain muscles twitch
	Goes to pieces in emergencies
Has lots of energy on the job	Should show more energy and pep
	Bad odors about person
	Appearance
	Should
Dresses very neatly	Be more cleanly in person
	Press clothes more frequently
Good facial expression	Improve facial expression
	Use less cosmetics
Always makes a good appearance	Shave more frequently
	Conversation
	Should
Uses very good grammar	Improve grammar
	Talk more
Carries on conversation well	Do less talking and more listening
	Improve tone of voice
Has very good sense of humor	Be less solemn and more humorous
	Be less sarcastic
Is enthusiastic	Be more enthusiastic
	Argue less
Speaks well of others	Speak well of others more often
	Talk less about own interests
Retains company matters to self	Keep company matters to self
	Look people in eye while talking
Can talk to all kinds of people	Try to talk to all kinds of people
	Improve vocabulary
Listens attentively	Listen more attentively
	Omit pet phrases such as.....
	Manner toward others
	Should
Is very tactful	Try to be more tactful
	Be less easily persuaded
Understands human nature	Learn more about human nature
	Select better companions
Mixes pleasure and work properly	Attend more social affairs
	Attend fewer social affairs
Always greets people with a smile	Smile more often
	Not assume air of independence
Shows right amount of appreciation	Express appreciation more often
	Be less familiar
Can see the other fellow's views	Try to see all sides of a question
Never borrows money for trifles	Borrow less money
Has very good manners	Study social etiquette

POSITIVE OR COMMENDABLE TRAITS	NEGATIVE OR IMPROVABLE TRAITS
	Mental Efficiency
	Should
Attacks work systematically	Work more systematically
	Pay more attention to details
Good memory for names of people	Determine to remember names
	Get more general knowledge
Good memory for company facts	Remember facts about work
Always seeking new ideas	Learn more about certain subjects
	Attitude toward Self
	Should
Has proper respect for self	Not overestimate his worth
	Not look down upon himself
Controls temper well	Control temper
	Be less sensitive
Troubles make little impression	Think less about own troubles
	Make less effort to be in limelight
Stands up for what he believes right	Stand up for own ideas
	Be less self-conscious
Accepts criticism in right spirit	Realize that criticisms are to help and not to hurt
	Moral Traits
Believe him absolutely honest	Doubt honesty under pressure
	Should
Consider him very dependable	Stop dissipating
	Be more dependable
Conversation is clean	Control animal nature
	Use less profanity
	Conduct on the Job
	(If you, the rater, have little knowledge of his work, check only those items that you know.)
	Should
Seldom loses time off job	Take less time off job
Does more than just necessary	Do more than absolutely necessary
Cooperates with superiors	Cooperate with everybody
Cooperates with everybody	Not fear the boss
Handles employees well	Try to please other employees
Popular with fellow-employees	Do less "visiting" at work
Does not side-step blame	Accept blame when it is due
Handles responsibility well	Seek more responsibilities
Works without "crabbing"	Not "crab" about work
Works overtime without request	Do his share of overtime
Gets work done on time	Try to get to work on time
Does work very accurately	Improve accuracy
Turns out large quantities of work	Turn out more work
Uses head on job	Think more *about how* to work
Makes many good suggestions	Make some suggestions for work
Very loyal to the company	Be more loyal to company
Gets to work on time	Not let difficulties stop him
Concentrates well	Improve handwriting
	Waste less time on job

Add any additional items which you think might be of value to the person rated. Explain any points that might be misunderstood.

For what kind of work do you think that this person is best fitted?

How might he increase his chances for advancement?

Name of person making rating.

THE BLIND IN SCHOOL AND SOCIETY—A REVIEW

SINA FLADELAND

THE BLIND IN SCHOOL AND SOCIETY, *by Thomas D. Cutsforth, Ph.D. D. Appleton and Company, New York and London. 263 pp.,* $2.50.

My reading of *The Blind in School and Society* convinces me that were it characterized more by the unbiased thought of the scientific student and less expressive of the reformer's prejudice, Dr. Cutsforth would be much nearer the achievement of his purpose "To acquaint the seeing with the blind and the blind with themselves."

The book makes some definitely valuable contributions to the educational and social welfare of the blind, and gives to those engaged in these fields of activity substantial food for serious consideration.

The problem of the pre-school blind child appeals to me as adequately handled and merits the attention of all who are interested in, and responsible for the care and training of these young children. There is not much that is new in his discussion, and here, as elsewhere throughout the book, he makes sweeping generalizations, particularly regarding the respective play and educational values of simple and more complicated toys and objects. The results of my experience as a congenitally blind child and special teacher of young children indicate that superior and even average youngsters soon tire of the very simple because the possibilities for exploration are limited. They like balls because they roll and bounce and not primarily because they are round and smooth to the touch. Although these are factors, they are not as highly important as his discussion indicates.

The case of Bert related in the second chapter cannot serve as representative of the average blind child. Most children of normal intelligence would not and could not vegetate as he did. However, there are Berts and his case is an appeal for proper and early training of the young blind. I wonder if it is not possible that the uninitiated reading this case history might not assume him to be a typical blind boy. A few modifying and qualifying sentences added to this as well as other chapters might improve the entire book.

Institutions and educational methods for the blind may need changing, but they have risen far above the stage of degeneracy which Dr. Cutsforth attributes to them. As a graduate of a very small state school I cannot by any stretch of the imagination say that my environment was "miserable," nor can I call the learning I acquired the substance of "empty husks."

It is a generally acknowledged fact that institutions cannot afford the ideal environment for child growth. Human nature does not thrive when handled on the wholesale system. The monotony, restriction, and careful supervision residential school life imposes undoubtedly tend to thwart and otherwise modify personality growth. However, it seems to me that he exaggerates these conditions. For instance, in discussing the effects of supervision he tells of some blind people being haunted by so great a fear of being watched that they feel the eagle eye of their teachers upon them even through the walls of their rooms. I wonder if such unfortunates are not the victims of paranoid tendencies.

He condemns institutions as the chief causal factors in masturbation and sexual maladjustments. To be sure, segregation of the sexes, monotony, and restriction have no small effect, but here, again, he is guilty of overstatement of facts. How does he account for sex perversions among seeing children and adults? Is there a comparative study of the sex life of the blind and the seeing?

The chapter on the phantasy life of the

blind is interesting reading, but its contribution seems doubtful because for the most part the relation between the phantasies and their attributed consequent overt acts is rather far fetched. Phantasy building is not typical of blind children alone. It is practically inseparable from adolescence. It is reasonable to suppose that it may be more common among the blind, but how much reliable data have we to verify the assumption? The phantasies Dr. Cutsforth records are not different from those that might be found among seeing subjects. Is it possible to read too much significance into these imaginings?

The uninformed reader will gather from this book that the physical environment of schools for the blind is common and even ugly, which is far from the truth. Many of them are places of rare beauty both as to architecture and site, with trees, fragrant flower gardens and orchards; and where trees are, there are the birds. Appreciation of natural beauty has been and still is being fostered in schools for the blind.

Dr. Cutsforth makes some very valuable contributions to our educational thought in his criticism of the natural tendencies of the seeing to translate their visual world into second-hand concepts for their blind pupils instead of giving time, thought, and energy to the development of their own concepts based upon experience derived through their unimpaired equipment. His criticisms are essentially true, but here again he errs in overstating. By way of illustration consider his allusion to the "smears and smudges" of which the blind child is unaware. It is true that many blind children and adults are untidy in person and at the table, but it is probably equally true that as many of them are just as fastidious. Most of us must have had the experience of being told that it—the dirt—doesn't look as bad as it feels, which indicates that not many smears and smudges escape the blind.

It is unfortunate that his handling of this phase of the subject should be marred by extravagances such as designating much of the learning of the blind as "empty husks," and the statements that there cannot be mutual respect between a blind person and his seeing friend, and that there must always be an element of condescension on the part of the seeing. My experience does not confirm this attitude.

It is true that we have acquired some "empty husks," particularly in relation to color and space. Even my ideas concerning these I cannot condemn as utterly empty because, in spite of the fact that color as a sensory stimulus can mean nothing to one without sight, there is a very definite emotional satisfaction derived from the meaning of color. It is vitally associated with moods, attitudes, and situations. Because of these complex relationships can color be regarded primarily as a visual stimulus? When reading this book, it might be well to keep in mind that beauty is an emotional or spiritual product and that it is possible "to have eyes, yet see not." This is not merely a sentimental suggestion. Inadequate as my comprehension of color and visual beauty doubtless is, it has aided, not hindered my social and emotional adjustment, and after all I know of nothing more important than such adjustment.

Dr. Cutsforth's attitude toward the cheerful blind is too sarcastic to be convincing. It is probably true that many assume joy for the comfort of the seeing and to gain their approval. However, blindness with all its consequences need not and for the most part does not rob the individual of happiness. This assertion is no mere defense mechanism, but is based upon experience with blind children.

In his discussion of speech disorders he brings out the problems of the broadcasting voice which are of sufficient interest and importance to warrant serious research.

The cases of the two young college students are typical of hundreds of young people in their struggle for adjustment. This is not a problem peculiar to the blind alone,

but perhaps is more serious with them. The two boys were graduates from a residential school, but had they been the products of a public school might they not have had the same college experiences? It is hardly safe to formulate conclusions from two cases. How do we account for the maladjusted students from the cream of American homes and schools?

The Blind in School and Society is essentially sound in theory, but it is too thickly padded with unconfirmed and unverified assertions and generalizations to be thoroughly scientific. If research material is too personal to be presented adequately in some form, it is scientifically useless.

The wordiness of the book frequently obscures sound principles. The author indulges too freely in verbalism. Many of his statements are dogmatic and dramatic. Near the beginning of the book he informs us that not one blind person has a normal personality. That is obviously ridiculous.

His purpose to acquaint the seeing with the blind, to my mind, does not seem at all adequately accomplished, because his presentation of the blind to the seeing is distorted.

(*Continued from Page* 11)

than at the end of the lines; good subjects spend less time at the end than at the beginning, poor subjects more.

6. A study of regressive movements reveals that a greater number of regressive movements are made by the left than by the right hand; that good readers make fewer regressive movements than do poor readers.

7. Records of the amount of time spent in making return sweeps reveal that between six and seven per cent of the total reading time is spent in making return sweeps; that good readers spend less time in making return sweeps than do poor readers; that good readers spend less time making return sweeps with the left hand than with the right, whereas the poor readers spend more time with the left than with the right.

THE TEACHERS FORUM
for
Instructors of Blind Children

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The Editors will not be responsible for opinions expressed in signed articles

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CHANGE OF EDITORS

With this issue of the *Teachers Forum,* Miss Kathryn E. Maxfield brings to an end her connection as Editor of this magazine. This change has been made necessary due to the fact that Miss Maxfield is now connected with Perkins Institution as Director of Research and Personnel.

The present editor wishes to take this opportunity of calling attention to the development of the *Teachers Forum* under Miss Maxfield's guidance. In March 1928, the *Forum* was started as a small eight-page publication designed to meet the needs of progressive instructors of blind children who wished to keep abreast of the work being done in other localities.

The first issues were experimental in character, designed to "feel out" the demand for such a magazine. As the *Forum* seemed to meet with the approval of teachers, it became a regular Foundation publication, appearing five times a year. In the next two years the amount of material available, and an ever increasing interest, made an expansion to its present size of twenty pages necessary.

It has been Miss Maxfield's constant endeavor to include articles of a diversified nature in order to present all phases of work

with blind children in as readable and as accurate a fashion as possible, and to make the magazine national in scope. Its increasing circulation and the favorable comments regarding the content, received from those in the field, indicate how well she has succeeded. The present Editor will endeavor to continue the magazine on the same high plane.

ONE HUNDRED YEARS

In Philadelphia the month of May was ushered in at the Pennsylvania Institution for the Instruction of the Blind by a celebration in honor of the first one hundred years of service by that school.

"Overbrook," as the School has been more conveniently called since its removal to the Overbrook section of Philadelphia, has kept pace with her two sister centenarians, the New York Institute for the Education of the Blind and the Perkins Institution and Massachusetts School for the Blind, in keeping before the public the fact that although blindness may be a physical handicap it is not necessarily a mental or emotional one. The fact that former pupils of these three schools are successfully holding positions in many fields of endeavor has acted as a stimulus to other and newer schools throughout the country in finding positions for their graduates.

BRAILLE TYPEWRITER

The American Foundation for the Blind is now prepared to accept orders for the new braillewriter, deliveries to be made this fall. This machine is the result of years of experience in the manufacture of the Hall Braille Writer and of a careful study of all writing-machines for the blind anywhere in the world. In the development of this writer, the Foundation has had the benefit of the cooperation of the Research Department of the Underwood Elliott Fisher Company.

Arrangements have been made to have the machine manufactured for the Foundation by the L. C. Smith and Corona Typewriters, Inc. The high standard of workmanship characterizing this company's products gives assurance that this machine will be thoroughly well made in every particular.

The price of the American Foundation for the Blind braille typewriter with carrying case is $35 f.o.b. New York City. Orders for the new braille typewriter should be addressed to: American Foundation for the Blind, 125 East 46th Street, New York, N. Y.

Starting last February every periodical issued by the National Institute for the Blind has been published in Standard English Braille.

Our Contributors

Miss Adelle Mowry has had charge of the kindergarten department of the Iowa School for the Blind for the past few years.

Mrs. Pauline Fertsch Eatman received her master's degree in 1932 and is now an assistant in the department of educational psychology of the University of Texas.

Dr. B. F. Holland, Ph. D., is an instructor in the department of educational psychology of the University of Texas. He is conducting a series of experiments dealing with work for the blind. The article is a summary of Mrs. Eatman's master's thesis done under the direction of Dr. Holland.

Dr. Samuel P. Hayes, Professor of Psychology at Mount Holyoke, is acting as Psychological Assistant at Overbrook and Perkins, and is now acting as consulting psychologist for the American Foundation for the Blind.

Miss Sina Fladeland, a graduate of the North Dakota School for the Blind, has her master's degree in psychology from the Pennsylvania State College. She is a teacher of corrective speech at Perkins.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. VI NOVEMBER, 1933 No. 2

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NEW EXPERIMENTAL DATA ON THE OLD PROBLEM OF SENSORY COMPENSATION

SAMUEL P. HAYES

The tradition that a kindly Providence is sure to compensate the blind by a quickening of their other senses goes back, like the popular belief in palmistry and astrology, to a hoary antiquity and shows a vitality which keeps it alive for the modern Sunday newspaper and for fireside anecdote. Possibly the recent emphasis on compensation for inferiority about which the psychoanalysts have written so much has served to support the old belief. It certainly is not a dead issue when military leaders seriously propose to use blind persons in submarines to detect the presence of enemy vessels because of the superior hearing of the blind. We may be erecting a man of straw for our attack, so far as the educated blind are concerned, but the general public has yet to be shown the error of the old belief; and every year other credulous young people grow to the age at which such subjects become interesting, so they in turn need a clear statement of the case.

This article presents new experimental evidence upon two types of possible compensation—higher sensory acuity in hearing and improved perceptual interpretation of auditory and kinesthetic cues.

Do blind boys and girls develop a finer sense of hearing than the seeing?

At the Pennsylvania Institution for the Instruction of the Blind Miss Ruth Sargent made an auditory survey of the pupils in the main school, using a delicate audiometer of the Western Electric Company, and compared the results with those obtained from a small group of seeing teachers at the Institution and students at Bryn Mawr College.

This audiometer gives sounds of 8 different pitches from 64 to 8192 double vibrations, arranged in octaves from a tone 2 octaves below middle C to a tone 5 octaves above. At each pitch the intensity of the tone can be varied upward to a sound of great strength and downward till it becomes inaudible. Starting at a middle pitch with an intensity at which the tone can be heard easily, a series of progressively softer tones is given until it can no longer be detected. The subject responds by pressing a signal button as often and for as long as he hears the sound. The last tone to which he responds is taken as a tentative threshold of auditory acuity, which is later corrected by working upward from a very low, inaudible tone to one to which he responds. This procedure is repeated for each of the 8 pitches in haphazard order, each ear being tested separately. The subjects comprised 92 blind boys, 84 blind girls and 19 seeing women.

The results were tabulated to show the median and average attainments of the three groups at all the different pitches. The blind boys were slightly superior to the blind girls in six of the eight pitches, while the seeing women were superior to both blind groups at every pitch level. Moreover, all the seeing subjects heard all the pitches, while some blind subjects of both sexes failed to hear the two lowest pitches and a still larger number of the blind boys failed to hear the highest pitch. In general, then, we may say that a comparison of the auditory acuity records of the unselected population of a large school for the blind with the records of a chance selection of available seeing women does not indicate any compensatory development of the sense of hearing.

The same superiority of the seeing appears in a further analysis of the data in which the following cases were omitted: pupils who gave the appearance of being deaf or who had auditory defects recorded against them by the school otologist; pupils who had failed to hear one or more pitches

with one or both ears; pupils of inferior mentality who might have misunderstood the directions; and several of the seeing subjects who were middle-aged. This reduced the blind subjects to 68 girls and 77 boys, who were then further classified in three age groups, while the seeing group was reduced to 12 college girls. Again it was discovered that for every pitch the seeing subjects needed less intense sounds than any of the blind groups. We seem justified in concluding that in the hearing of simple tones given under standard conditions the blind do not obtain sensory compensation for their loss of vision.

Can blind people learn to recognize objects by hearing and touch more readily than the seeing?

Miss Ruth Sargent at the Pennsylvania Institution for the Instruction of the Blind and Miss Pearl Bragdon at the Perkins Institution and Massachusetts School for the Blind experimented upon this problem with blind subjects and the writer repeated the same experiments with groups of students in the junior class at Mount Holyoke College. The materials used consisted of two sets (A and B) of ten small cardboard boxes indistinguishable in appearance, containing different kinds of objects, such as nails, coins, etc. The experimenter was furnished with a stop watch and lists of the contents of the boxes printed in order from most to least difficult for seeing subjects. Each subject was given a list of the contents of the boxes he was to learn, printed in haphazard order, in ink for the seeing and in braille for the blind. Having blindfolded the subject, if any degree of vision was present, the experimenter would explain the experiment, give the subject the list of contents and hand out the easiest box. The subject would then shake and turn the box to discover the nature of its contents, consulting the list as often as desired. After the first box was identified, the next easiest was given and so on in order until the subject had gone through one whole set successfully. Such an identification constituted the first trial. The experimenter meanwhile had recorded the mistakes made with each box and the total time for the trial. The boxes were then passed out irregularly and errors recorded, until the subject had again identified the whole series. These trials of the whole set were repeated until the subject could tell correctly the contents of all the boxes after a single shake of each. The subject was then invited to explain how he was able to distinguish the boxes.

Table I shows in detail the results for Set A, the boxes containing ground coffee, pennies, small stones, pieces of paper, pieces of cardboard, thumb tacks, lima beans, pieces of wood, nails, and pieces of glass, here arranged in order from easiest to most difficult for seeing subjects. Set A was used with 27 blind post-graduate students and teachers at the Pennsylvania Institution for the Instruction of the Blind, but only 21 completed the test, two being called to other duties when the test was only partly done and four giving it up as beyond their powers either because of deafness, the very recent loss of vision, or temperamental dislike of such tests.

Table I indicates that the slowest blind subject who completed the test required 780 seconds for the first trial while the fastest subject needed only 120 seconds. The median for the blind on the first trial was 308 seconds. We note a fairly regular decrease in time used from trial to trial, as in a normal learning curve, and a decrease in the number of subjects as one after another learned the set. Only one blind subject needed more than 17 trials and this subject continued through 25.

Set A was used in the same way with 18 Mt. Holyoke juniors with the results which appear in Table I. From the first trial the seeing subjects made better records. They needed much less time on each trial, the medians for the seeing running generally below the shortest individual times for the blind. In both groups there were a few

TABLE I

The Longest and Shortest Single Records for Each Trial, and the Median Time for the Whole Group for Each Trial, in Seconds, with Set A

	Pennsylvania Institution for the Instruction of the Blind				Mount Holyoke College Students			
Trial	Number of subjects	Slowest	Median	Fastest	Number of subjects	Slowest	Median	Fastest
1	21	780"	308"	120"	18	295"	88"	15"
2	21	637	215	70	18	118	61	9
3	19	420	165	70	18	180	45	8
4	17	345	115	45	17	95	45	7
5	14	487	110	35	16	100	44	3
6	13	268	90	45	12	106	40	13
7	11	215	75	35	11	67	39	10
8	9	210	100	45	8	61	40	9
9	6	105	75	45	8	67	36	8
10	4	210	75	70	5	63	51	50
11	3	170	70	40	4	66	25	25
12	3	120	75	70	3	75	36	34
13	2	115		55	3	72	37	31
14	2	100		85	3	51	47	25
15	2	75		57	3	56	45	36
16	2	70		45	3	54	46	31
17	2	65		60	3	46	46	34
18	1*	60			3*	52	46	45
	*Finished at trial 25				*Finished at trials 19, 21 and 24			

individuals who had great difficulty with the experiment; the table shows only three subjects in each group who continued beyond 11 trials but, as noted above, a number of blind subjects did not complete the test at all.

Quite similar results were obtained by the use of Set B with 11 older pupils at the Perkins Institution and another group of 16 Mt. Holyoke juniors. This set was somewhat easier for both groups than was Set A and all but one subject had finished at the ninth trial, the exception being a seeing girl who required thirteen trials. As in Set A, the seeing were clearly superior. While the poorest individual scores in a few of the trials were made by seeing subjects, the medians for the seeing group were definitely better than the medians for the blind in every trial, and in most trials the medians for the seeing were better than the fastest individual scores for the blind.

Table II shows how many trials were needed by the different subjects in order to learn the sets of boxes. For instance, we note that no subject learned either set with one trial but that two trials were enough for two of the blind subjects to learn Set A, each letter representing one subject. The table as a whole shows no superiority for blind or seeing with either set of boxes. In Set A the median was the same for both groups, 7 trials. All the seeing subjects completed the test though three needed more than 13 trials and one did not finish until the 24th. One blind subject required 25 trials and the four who did not succeed in completing the test are not included in this table. Set B was learned by two seeing subjects at the third trial and one required 13; the fastest blind subject finished at 4 and the slowest at 9 trials. The median for the two groups in Set B was the same, 6 trials.

A third table was constructed to show the number of wrong guesses per trial. It was found that in Set A the seeing made the largest number of wrong guesses and that the median number per trial was somewhat in favor of the blind; in Set B, however, though both groups started with relatively high scores, the medians for the seeing were

TABLE II

Frequency Table Showing the Number of Trials Needed, Each Letter Represents One Subject, M Standing for Men and W for Women

Trials needed	Set A		Set B	
	21 blind subjects at the Pa. Inst.	18 seeing at Mt. Hol.	11 blind subjects at Perkins Inst.	15 seeing at Mt. Hol.
1				
2	M W			
3	M M	W		W W
4	M W	W	M	W
5	W W	W W W W	M W W	W W W
6	M W	W	M W W Median	W W Median
7	M M W Median	W W W Median	M W	W
8	M W		W	W
9	M M	W W W	M	W W W W
10	M	W		
11		W		
12				
13	W			W
More than 13	M W	W W W		

somewhat better than those for the blind. Set B seemed to be somewhat easier for the seeing, while Set A was easier for the blind. A further study of the two sets box by box showed that Set A contained a few boxes which were quite difficult for both the seeing and the blind. In general the order of difficulty for the seeing was much the same for the blind, the only marked exception being the box containing small stones which for some reason was easier for the blind.

The blind and the seeing reported similar methods of distinguishing the boxes. Some depended mostly upon auditory cues—the pitch, intensity or peculiar quality of the sound—using such descriptive terms as high, low, loud, soft, dull, hard, dry, metallic, rattling, swishing, scraping, jingling. Others mentioned the weight or the force of the objects as they rolled or slid, fell or thumped against the side of the box, judging from such complex auditory and kinesthetic cues whether the box contained one or several objects. "It does not scatter so it must be a simple object" is a typical comment of this sort. The seeing called up visual imagery to help them in their identifications. Some subjects, however, were quite unable to describe their methods, reasoning that the contents must be this or that because the other possibilities had been eliminated. Some found the experiment easy and agreeable; others had great difficulty, disliked it and soon became discouraged.

As about half our blind subjects in both schools were men, while all the seeing subjects were girls, a further study of the figures was made to see whether sex might make a difference. No clear sex difference emerged. In the time required for the first trial, and in the number of trials needed, the scores for the boys were more widely scattered, the boys having both the best and the poorest scores. But the medians for the girls were the same or slightly superior to those for the boys. When the blind girls alone were compared with the seeing girls no evidence for compensation appeared.

There is no clear relationship between intelligence as indicated by a Binet I.Q. and facility with the boxes. Two very superior blind subjects required 9 and 25 trials respectively, while the two best scores of all (learning Set A in two trials) were made by blind subjects with I.Q.'s of 78 and 95. A calculation of the relationship between I.Q. and number of trials for Set A by the rank order method gives a small negative

correlation (—.18) for the 18 blind students who had been measured by the Binet tests.

In general we seem justified in concluding that this experiment, like the one before reported in this paper, shows no sensory compensation on the part of the blind. Planned originally for blindfolded college students, the experiment was easily adapted for use with blind subjects. It calls for learning through the use of auditory and muscular clues. There is no evidence that it is unfair to the blind; on the contrary the seeing would seem to be at some disadvantage as they are seldom limited to sensory and muscular cues in every day life and lack confidence in their activities when blindfolded. In number of trials and number of mistakes per trial there is no clear superiority for either blind or seeing, but in the *time* required both groups of seeing subjects were clearly superior to the blind with both sets of boxes. Apparently our blind subjects as a whole have not had occasion to acquire facility in any performance similar enough to this experiment so that their skill could be readily transferred, although some of those who learned quickly compared the tests with their auditory experience in distinguishing coins by sound, dropping beans or cranberries into tins in the kitchen, dealing with various metals in piano tuning, rattling pennies in a toy bank. On the whole the blind subjects engaged in hand work made better records than those studying literary subjects in college or teaching them in school.

There is no doubt that many blind people take advantage of sensory cues which are neglected as unimportant by the seeing; but we have again failed to find experimental evidence of heightened sensitivity in performances which the blind have had no occasion to practice.

Several changes have been made in the personnel of schools for the blind during the past year. Many of these have been reported in recent issues of the *Outlook for the Blind.*

FOUNDATION LIBRARY

The Volta Review for April 1933 contains an article called "Brothers" by Inis B. Hall, in which is told the story of a little blind-deaf boy and how he is being educated at Perkins Institution.

The September issue of the same magazine also has an article on the deaf-blind, "Living Radiantly in Darkness and Silence," by Laura Davies Holt, which is a description of Helen May Martin.

The Journal of Applied Psychology for April 1933 contains an article, "The Tactual Recognition of Embossed Pictures by Blind Children," by Ralph V. Merry and Frieda Kiefer Merry, which is a report of experiments carried out at Perkins Institution. The authors conclude that it may be of value to make use of embossed designs of a bi-dimensional type in the education of blind children, but it is very doubtful if embossed pictures of tri-dimensional objects wherein perspective is involved, possess any real meaning for children without sight, even after systematic instruction.

Dr. Frieda Kiefer Merry has also written an article, "Future Possibilities in the Education of Blind Children," in the March 1933 issue of the *Bulletin of Lambda Tau Sigma.* In this article the writer touches upon the various problems which confront the teacher of the blind at the present time.

The Law Relating to the Blind is the title of a book by Philip F. Skottowe, LL.B., published this year by Butterworth & Company, London, England. This book has a foreword by Captain Ian Fraser, of St. Dunstan's, and is a discussion of the various laws relating to the blind in England.

An Ambassador in Bonds is the story of Father William Henry Jackson, Priest of the Mission to the Blind of Burma. The story of this blind missionary is written by his sister, Mary C. Purser, and is published by the Society for the Propagation of the Gospel in Foreign Parts, London.

HELGA LENDE

THE EDUCATION OF VISUALLY HANDICAPPED CHILDREN—A REVIEW

P. C. Potts

The Education of Visually Handicapped Children, *by Ralph Vickers Merry, Ph. D. Harvard University Press, Cambridge, Massachusetts.* 243 *pp.*, $2.50.

The book *The Education of Visually Handicapped Children,* by Ralph Vickers Merry, is a noteworthy contribution to the literature of the subject. In the first place, it comes up to the standard of the publications of the Harvard University Press in being almost flawless in grammatical construction and typography. Second, it meets the requirements for a doctor's dissertation, in citing the specific sources of all information and in not being too dogmatic in the stating of conclusions. In fact, one of the main contributions of the volume is the pointing of the way toward further research and experimentation.

The evaluation of the work being done in our schools for the blind is decidedly not flattering to those engaged in it, but it shows what is necessary in order that this work may be improved. Some of the criticism seems a little too harsh, however. The fact that the curricula in schools for the blind conform very closely to the state courses of study for the public schools implies that the aims and objectives are similar. It has been very difficult for us to use the project and other modern methods, because there have been so few textbooks available in most subjects. When there was only one book in a subject which was printed in braille, it was hard for the teacher to assign much work to be done outside of class which did not involve this book. But as fast as funds have permitted the presses of the country to print the books and the schools to purchase them, the progressive teachers have made use of them in their courses of study, and now with the large number of texts available, there is no excuse for sticking to the textbook method.

As to the superiority of sight-saving classes over those in schools for the blind, they are a part of the public school system and can draw on public school funds to any extent which the superintendent deems desirable. Being established at a time of great expansion in our educational system, when money was being expended lavishly for almost any "fad or frill," and being good advertising media, they have had every advantage which money could buy. Having no textbooks and methods to discard, and being able to base their curricula and methods on the result of the latest scientific research, they have been able to go straight ahead without having to depend upon trial and error to any great extent.

The expression "day school vs. residential school," and the term "opponents" applied to those connected with these two types of institutions, are not happily chosen. Day school classes for blind pupils should be a part of the school system in every large city, but the residential school is necessary to take care of those who do not live in cities. One of the main advantages of the latter seems to have been overlooked, and that is the possibility of providing for considerable supervised study. I think that it is due largely to this that blind pupils sometimes do work which is superior to that done in their grades in public school. The sight-saving classes perform a valuable service in removing, both from regular public school classes and schools for the blind, some pupils who do not belong there. Pupils who have enough sight to be in sight-saving classes are misfits in schools for the blind.

The author emphasizes the importance of pre-school training for children without sight. Most parents seem helpless when confronted with the problem of caring for a blind child. Although our superintendents

have tried to disseminate helpful information as widely as possible, yet the parents are unwilling to treat the blind child like an ordinary individual, and too often he comes to school not only too dependent upon others but also lacking in physical stamina, due to a sedentary and inactive life.

It is important that more attention be given to corrective gymnastics and diet, because of the prevalence of various physical abnormalities and weaknesses among blind children. However, I think that Dr. Merry is a little hard on the residential schools in the matter of supervised play. If this is inferior to that in the public schools it is probably due to the incompetency of the supervisors rather than to the extent of the supervision.

A really pitiful case is that of the blind feeble-minded child. All schools for the blind have had experiences with such children and have had to turn them away. Many institutions for the feeble-minded are closed to them because the authorities claim that they are not able to care for them properly. The author's findings in this matter are worthy of wide dissemination: "It is the consensus of opinion that educable blind feeble-minded children should be admitted to institutions for the mentally defective, either diffused among the seeing feeble-minded with no special provisions for training; admitted in small groups with a special teacher provided through an extra per capita grant by the state; or assembled in large numbers at 'training centers' established at centrally located institutions for the feeble-minded." Another quotation from the same chapter is enlightening: "The intelligence quotients of 709 sight-saving pupils show a distinct inferiority in mental ability. On the other hand, teachers' ratings of the mentality of 1986 partially seeing children show their intelligence to be somewhat better than would be expected from any unselected group of pupils." This indicates that teachers, although they may not intend to do so, make allowances for the handicapped child. This is particularly noticeable in the transfer of pupils from the public schools to schools for the blind and vice versa. When a child comes to a school for the blind from a public or parochial school, after he has acquired his new medium for the communication of ideas he usually has to go back from one to four grades in order to get a better foundation. Even then there are many things in the course of study which he has not learned at all or has imperfectly understood. It is sometimes appalling that teachers have promoted pupils from year to year with such a modicum of knowledge.

The chapter on "School Achievement" is particularly stimulating, but not enough emphasis is placed upon the undesirability of having in the same grade pupils who differ in age from two to five years. It is not very detrimental to the pupils or the school to have pupils who are one or even two years over-age, provided they form a homogeneous group; but it is tragic to have twelve-year-old boys and girls in the same class with sixteen-year-old pupils.

The author calls attention to the fact that "A Study conducted by Muhl at the California School for the Blind revealed the following facts: (1) pupils lacked initiative, their apathy being due to emotional blocking rather than to physical causes . . ." It seems probable that this is an important handicap, and, if so, every effort should be made to remove it.

The problem of selecting and training teachers is probably the most serious one in our schools today. A plan which is usually satisfactory is to select public school teachers who have been unusually successful and who are interested in working with the blind, and, after they have had a summer, or preferably a year of special preparation, to train them in the particular school in which their services are needed. As the superintendent is usually too busy with other duties to oversee this training, it is very important that he have a supervising principal.

(*Continued on Page* 37)

DOCTOR ALLEN SAYS:

LIBORIO DELFINO, SHEPHERD OF THE BLIND

I want to add to the recent recognition of a Hero of the Darkness my personal recollections of his school days and early career. Many years ago I was called to the Germantown Hospital to see a boy of about seventeen years, mutilated by dynamite almost beyond a mother's recognition. Good Samaritans who spoke Italian had made him understand that there was still hope for such as he; so that when he grasped my hand he held it close—a hand-clasp expressing an affection and trust which quickly became mutual and has never lessened.

Presently Louie, as he was called, came to school; but his threefold handicap—language, loss of right arm and lack of eyes—did not win him more or truer friends than did his happy, affectionate disposition and beautiful character. Though English came to him none too easily, he persevered until it became completely his own. He was crippled yet was a giant for strength: little boys would run or call to him for protection from the school bullies. He demanded justice for himself also; in fact, had a way of compelling respect from one and all.

At home he had tended sheep and goats on the mountains, and had never learned to read. Now he read until his finger-ends sometimes left trails of blood behind them. He became insatiable for knowledge and when, because of the consequent headaches, the doctor prescribed a cessation from study, his patient could not rest. He had come under the spell of that book, Smiles' "Self Help." Friends then wisely supplied him a reader; and in this way he made his own much of our best literature. He began early to attend university extension lectures; and when in 1900 he graduated from school, he was perhaps the best informed member of his class. It was thus that he carried out his dearest wish: to requite the kindness of his American friends.

Needing a coach for our ungraded boys, we put him over them. The school had no more effective pedagog. Since he always walked about among his pupils, not one of them could idle in class. He was always charitable, even compassionate, with them, yet severely just; and they accepted his judgments. Problem cases under some of our teachers trained at normal school, commonly ceased to be such under him.

During a short vacation I gave each of three recent graduates the returns of ten Philadelphia children, unknown to us, but reported by the census as blind. Our hero alone accounted for every one on his list, having traced two of them to the graveyard. Evidently we had found a man who could carry a Message to Garcia. From this quality and from his shepherd boy's training in courage, resourcefulness, and responsibility sprang Liborio Delfino's remarkable career, first as maker of the school's survey of old pupils and gatherer-in of new ones, then as general industrial and placement agent and manager of its city salesroom which, under his dynamic personality, included so many activities that it became an institution in itself. He thus deferred for years the cost of conducting a commission for the blind in Pennsylvania.

Terrible as was his accident and hopeless as it might have left him it was yet the means of making him alike a blessing to his fellow blind and an inspiration to all who know him.

SOCIAL ACTIVITIES OF STUDENTS IN THE WESTERN PENNSYLVANIA SCHOOL FOR THE BLIND

L. Elizabeth Oberly

Residential schools for the blind offer splendid opportunities to the complete staff to develop the fourfold nature of every individual child enrolled; namely, the physical, mental, moral, and social. No side of a blind child's nature is so likely to be neglected as the social.

The physician keeps the child "physically strong," the teachers keep the child "mentally awake," the whole staff, along with the influence of parents and church, aims to keep the child "morally straight," yet who keeps the child socially happy? The social activities in a school for the blind should be so varied and diversified that every student finds in one or more of them an expression of a particular phase of his nature which may make him an asset to the group.

The Western Pennsylvania School for the Blind does not boast of its social activities, but does attempt to develop situations which make for each student's happiness in school, and which may make for his social adjustment when he leaves its four walls.

The Part the Curriculum Plays

Programs. Regularly scheduled visitors' days during the year give every student the opportunity to play host and hostess to personal and school friends. While scheduled at his particular job, his gracious and efficient manner in performing his task does much to win for him the approval of his listeners, a cross section of the society that will receive him when his school days are over. Thanksgiving, Christmas, Washington's and Lincoln's birthdays, Memorial Day, and the closing of school all call for their appropriate programs to which the public is invited. Each child that appears on any one of those programs has himself to "sell" to a skeptical world; and he knows that in so doing he is accepting a big responsibility which calls for his very best. Department and subject programs are a good idea. The gymnasium has been working hard day in and day out on a particular drill, dance, or exercise. No one but the instructor and participating students knows the struggles, advance, and final accomplishment. The real purpose and result is physical development, but an immediate incentive, revealing itself in an annual gymnasium exhibition, makes the daily grind more significant to the student.

Similarly, music practice periods of one-half or one hour daily are dreadfully tedious necessities, but when motivated by a scheduled program they become purposeful opportunities.

The English, French, geography, handwork, etc. classes have the privilege of giving short programs any morning following Chapel exercises, provided they have something worthwhile to offer. In addition to motivating the school work and developing the child socially, these programs educate the public. Here is an instance where good brings more good, for out of this education of the public come opportunities for further social development; e.g. programs for the radio, for Lions Clubs, Rotary Clubs, women's clubs, luncheons, etc. which take the student out of the school environment and protection into actual groups and situations where he will very probably mingle later. The church affiliations constitute a very worthwhile social contact. Out of the student's capability of having programs to offer, rises a demand for him at church functions and parties which makes both church and blind student in turn social participant and recipient.

Contests. An intra-mural public speaking contest owes its origin and existence this year to the privilege of choosing the high school student most deserving of winning an award in that department. The Alumni

Association of the school made such an award possible. Three judges, consisting of a university professor and two public high school teachers, make the finals a real competitive feature, placing the students on their toes, and making them realize that a decision made by total strangers, expert in that particular field, will be a cold, studied decision giving credit only where credit is due.

It were well that students in schools for the blind go into life expecting no sympathy or allowances for their handicap, but planning to give a square deal.

The girls' and boys' athletic contests are features of many of the schools for the blind. Again universal rules and outside judges make competition fair. Here, as in no other particular feature that I recall, is the spirit of cooperation necessary for success. Good sportsmanship learned through these meets carries over into the relationships of life.

Hygiene Course. A course in Home Hygiene and Care of the Sick given by the Red Cross and taught by a Red Cross Nurse is given every two years in the school. The girls in Eighth Grade and High School are eligible for the Course, and receive Red Cross Certificates after its completion. This course gives the student another field of endeavor and certainly does much toward making each girl a social asset in the home.

Orchestra. What delightful results have come from the organization of an orchestra, and what latent possibilities have made themselves manifest! With the foundation in music firmly established in the piano classes (every student is started in piano in the second grade and continued as long as worthy) our orchestra has practically burst forth in song over night. One student who, because he couldn't do the work of his grade, had lost his own respect and consequently that of "the fellows" suddenly discovered he could play an instrument very well, and loved it. His social position among "the fellows" has changed materially. A woodwind ensemble, brass quartet, string ensemble, and dance orchestra are all in the process of becoming social assets.

Glee Clubs. The girls' and boys' glee clubs find that they must give up time which is allotted them as free time if they are going to take part in this activity; and busy as they are, they choose the glee clubs in preference to the free time. Both glee clubs take part in programs at the school and elsewhere.

Teas, Luncheon, Banquet. The girls' domestic science classes prove the practicality of their course several times a year by having one or two teas for the staff, and a luncheon for invited guests served in their own Home Making Department dining room. Equipment limits domestic science classes to six girls, so the cooking, serving, and role of hostess must all be done by the six. It has been the custom for several years for the senior domestic science class to entertain the Superintendent, his wife, and the department donor's daughter at a luncheon. They say "the proof of the pudding is in the eating." Since the writer happens to have been one of the guests at last year's luncheon, she is entitled to speak highly of the efficiency and social poise of the senior domestic science class.

The Junior-Senior banquet is one of the functions that takes place at the close of the school year. The Junior class entertains the Senior class at a banquet to which all the staff, board members of the school, and their wives and husbands are invited. It is quite a gala affair, having all the appropriateness of a formal banquet mingled with the spontaneity of the Juniors' farewell songs and addresses to their senior classmates.

The Part the Extra-Curricular Activities Play

Literary Society. The Holmes-Schenley Literary Society is an organization, composed of all the students in the high school classes, whose object is "to encourage its members to acquire a literary culture, a refined musical taste, an intelligent understanding of parliamentary usage; and to edit and publish a magazine in embossed type."

It meets the second Friday of each month beginning with October and ending in May, the meetings alternating with outside and home talent programs. A committee composed of both teachers and members is appointed for every two meetings, making four committees for the year, each responsible for an outside and home talent program. The outside talent programs are quite varied and have included the Lions Club of Pittsburgh, radio artists of Westinghouse Radio Station KDKA, the Drama League of Pittsburgh, and public high school programs.

The embossed magazine mentioned above is *The Illuminator* published quarterly by the society and sent free of charge to alumni of the school, all schools for the blind in this country, all libraries having departments for the blind, and any individuals desiring the magazine. In addition to the above it is interesting to note that it is sent to ten foreign countries. Each issue of the magazine contains an editorial, locals column, alumni column, humor, and a short story not hitherto published in braille. A gift book whose selection lies with a committee appointed by the editor of *The Illuminator,* is published in braille each year, and sent free of charge to the alumni of the school, all schools for the blind in this country, and libraries having departments for the blind. Thus the Holmes-Schenley Literary Society is responsible for the issuing of five braille publications each school year.

Just last year the society decided to have a social evening once every two months beginning with a party in the fall welcoming the incoming Freshmen into the society, and ending with a farewell party in the spring honoring the outgoing Seniors. The parties have been quite successful thus far and have encouraged initiative among the members of the society who make their plans with the staff committee appointed for the month.

Athletic Associations. Both the girls and boys have athletic associations which have arisen as a result of the athletic contests mentioned previously. The associations meet once a month during the fall and winter and every week during the spring while practice for the contests is in progress.

The members have as their aim, "To win the highest number of honors during the school year," distributed as follows: Health, Scholarship, School Spirit, and Athletics. The reward for the student winning the greatest number of honors is a leader's pin. A system is being devised whereby athletic awards comparable to those given in public high schools will be given high school students for outstanding physical prowess bringing honor to the school.

The boys' association staged a play last year, "Looks Like Rain," to raise funds to enable them to have a track meet with another school. In addition to raising money for their association, the boys had a good time rehearsing for the play, and furnished a most enjoyable evening for friends of the school. Two dances this year have been sponsored by the boys' athletic association to which the boys have invited the faculty and outside friends. A student committee took care of permissions, arrangements, and invitations, and the boys' dance orchestra furnished the music. These dances with the arrangements which they involve find their greatest good in the leadership and responsibility they develop in the boys who must make a success of the affairs or forfeit any hope of a future recurrence of similar occasions.

Clubs. Several of the report rooms have organized clubs which meet once a week during a report room period. The fifth grade club is known as the Ever-Ready Club, and the seventh and eighth grades club as the Junior High Progressive Club. The purpose of both clubs is mainly to give the students an opportunity for self-expression in directing and participating in organization, program planning, and discussions. Fundamental parliamentary usages are studied and put into practice, and questions of etiquette are discussed and settled with

the guidance of the home room teacher. Etiquette is a problem which should be stressed in schools for the blind. In addition to dealing with it in all the clubs, separate scheduled classes were planned this year for high school girls and boys in which they discussed freely any problem of etiquette that interested them.

The Saturday Evening Club is a girls' club in which the membership is voluntary; seventh, eighth, and high school girls being eligible. It is an outgrowth of a Camp Fire organization which functioned in the school several years ago. The primary aim of the club was purely for social development, but the activities have increased to a much greater extent. For the past ten years, the club has supported six blind girls in a mission in southern China; money for the purpose being raised by giving plays, selling cards, and voluntary contributions. Last year the girls gave a splendid production of the play, "A Southern Cinderella." About three years ago, the girls assumed the responsibility of collecting old clothing annually, and sending it to a school for mountain whites at Crossnore, North Carolina. Besides contributing to the Red Cross Welfare Fund, and Salvation Army, they give aid to our own local needs. The lively interest that the girls display is due in a large measure, I think, to the fact that they are doing for others rather than accepting others' kindnesses. The club has several parties during the year; among them, a party for the teen age girls of one of the churches of Pittsburgh, a garden party and dance for the faculty, and a hike and picnic for the members. The sponsor of the club feels that its success is due to the fact that it is non-compulsory.

Boy Scouts. The Schoonmaker Troop of Boy Scouts of America, Troop No. 51, of Pittsburgh, was granted its Charter on December 31, 1930 by the Allegheny Council. The troop was named in honor of Colonel James M. Schoonmaker, a former president of the board of directors of the school. The scouts have weekly meetings, and when the weather permits conduct their activities out of doors.

The scouting project ties up nicely with the curriculum. Requirements for Handicraft, Wood Carving, and Carpentry Merit Badges are met in the manual training classes. Arrangements are made for scouts to complete the work for the Basketry and Weaving Merit Badge in the girls' industrial department where such subjects are taught. The poultry course is built up around the Scout Merit Badge requirements, and the school music department offers scouts the opportunity to qualify for the Music Merit Badge. The scouts of this troop have participated in competitive camping trips at a boy scout reservation about eight miles from the city, where they put their knowledge of cooking and camp craft to use. They have a very lively drum and bugle corps which has participated in many of the school programs and "taken the roof off" the auditorium numerous times.

The troop proved its knowledge of first aid this spring in a first aid contest sponsored by the Western Pennsylvania Safety Council. The western part of the state is divided into districts, the teams taking the first ten places in the district meets being eligible for the finals which include the western half of the state. The participating teams of the Western Pennsylvania School for the Blind took first, sixth, and ninth places in the preliminary meet, and scored in the upper third of the 68 participating teams in the finals.

In addition to the social activities listed, the student owes a very great measure of his social contentment and happiness to his matron and supervisor, the mother and father of his school home. The part the matron and supervisor play is a very difficult role requiring sympathetic understanding of child nature, untiring patience, a feeling for and sense of justice, and a heart that loves humanity. They are an essential part of the school personnel.

WAYS AND MEANS OF TEACHING GENERAL SCIENCE TO BLIND STUDENTS

A. D. Hurst

This paper is an effort to relate how some of the laboratory equipment and experiments needed for a course in General Science are adapted to better meet the needs of the students at our school. At present, it seems that most of the textbooks and apparatus used for teaching this subject were designed for students with vision. This condition of course makes the teaching of General Science to the blind somewhat awkward unless some of the laboratory equipment is changed to make parts of it more tangible.

It might be well to state in the beginning that this "new" equipment does not always make ideal laboratory models. Much of it is crude and needs refinement. In fact, all of our devices for demonstration are based on the theory that a diagram which approximates the desired conditions is better when teaching science than if no form of laboratory equipment were used.

Since a course in general science includes many different topics, it will perhaps be well to consider the ones discussed in this paper on the basis of the three main divisions of science; namely, biology, chemistry, and physics.

Biology

Six topics, and the necessary adaptation of laboratory work to meet the needs of the blind, will be mentioned, the first three dealing with zoology, the last three with botany.

1. *Molds*—This is a difficult specimen for the visually handicapped to study, especially from the laboratory point of view. They do, however, seem to get some conception of the structure of these tiny plants if several small (No. 25) copper wires, three or four inches in length, are tangled and a piece of raw potato one-half the size of a peanut is placed on each end of the wire to represent the sporangia. The students must be carefully reminded that the little fibers forming the body of the mold, and also the sporangia, are much smaller than the model. (A scheme of this sort is only an enlarged model such as is frequently used by students with vision.)

2. *Yeasts*—Again we meet with a difficult specimen for the blind to work with, but this time we are able to secure, and with little difficulty in most places, an object which is a good representation of the plant under study; namely, an Irish potato. Specimens taken directly from the field, where growths or little potatoes are often seen projecting from the side of the larger one, are almost exact reproductions of some yeast plants. In some cases the protruding growth is no more than a bulged place on one side of the main potato. In other cases, however, the little potato is barely fastened to the larger one.

3. *Heart, liver, and lungs*—We secure from the farm or the market a specimen taken from a calf or a pig. The heart is dissected so as to best show the chambers and valves. A group of two or three students are asked to come to the dissecting table. The teacher then traces with each student's fingers the course of the blood through the heart, noting, of course, the valves, chambers, thickness of the walls, etc. This process continues until each student has seen all that he is expected to learn about these organs. Probes are also used so the students may see more clearly how the blood vessels lead to and from the heart.

4. *Structure of a leaf*—A cross-section of a leaf may be made by using blocks of wood 2″ x 2″ x 5″ (other dimensions may also be used) for the palisade layer, and wads of paper of appropriate size for the spongy tissue. Heavy wrapping paper serves well for the epidermis. Cardboard properly shaped and fastened to the epidermis with glue or tacks will represent the stomata.

Small wire properly woven through the paper will serve to show that the epidermis is composed of cells. One such model built on a table in the classroom will serve a class of average size.

5. *Different parts of a flower*—This subject should be studied in the spring when it is easy to secure a variety of flowers. A complete flower of a large size is preferable for the work, a Japanese magnolia being a good example. On this flower all of the parts are large enough to be easily felt. In case a large complete flower is not available, two different flowers may be studied in which the parts missing on one are present in tangible form on the other. For instance, a rose and a tulip make a fair combination. The calyx is absent from the tulip, but is present on the rose. Also the stamens and pistil are intangible on the rose, but are easily located on the tulip. Other flowers, common to each community, will serve just as well.

6. *Identification of common trees*—This subject is not mentioned in our text. However, we usually find time for extra work, and this is one of the topics we always study. No subject studied during the year seems to be more interesting to the class. Twenty-five to thirty common trees are usually identified. Branches from eight or ten trees are brought to class just before the bell rings and used while they are fresh. Each student is given a branch containing several leaves. The distinguishing characteristics of the leaves are then pointed out. For instance, the beech leaf is about three inches long, is oval in shape, and serrate. The lateral veins in the beech leaf are also parallel to each other and are approximately the same distance apart. No other leaf belonging to our common trees possesses all of these characteristics.

The shape of maple, pine, and hickory leaves will distinguish each from all others. The size, shape, and number of lobes on the oak leaves are enough marks of identification for recognizing several species. In the case of the white oak and post oak, it may be necessary to compare the epidermis of the lower side of the two leaves for a significant mark of differentiation. If this is done, it will be found that the under side of the post oak leaf has a satin-like appearance and texture, while that of the white oak leaf is reasonably smooth. The wild cherry can be recognized by its odor if its twigs are bruised or broken. The same method of identification may also be used for recognizing the sourwood.

Chemistry

Some texts on general science offer very little work concerning chemistry. The course, however, would hardly be complete without relating how some of the most simple experiments are demonstrated. Even though our laboratory is not equipped for individual work in this subject, the generating flasks, bottles, rubber stoppers, tubing, etc., are made ready for distribution in the same fashion as if the students were to do individual work. Each student is given the pieces of equipment necessary to generate one of the simple gases; for instance, oxygen or hydrogen. (In case there is a shortage of equipment, two or three students are allowed to work together.) As instructor, I then begin to set up the equipment to be used in running the experiment. As my equipment is being assembled the pupils are shown how to arrange properly the pieces of equipment given them. They are also required to place the proper amount of chemical into the flasks, with the exception of the more dangerous ones. This process continues until everyone is ready for the acid. At this point the students are given water to be used in the place of the dangerous liquid.

Since the gases to be generated are nontactual substances, it makes no difference if the students use water in the place of acid, for there is nothing for them to see even if they generate hydrogen or oxygen. At the same time they have learned the size, shape, and function of the most commonly used

pieces of chemical equipment, as well as how they should be assembled.

Physics

In this part of the paper our method of teaching six of the topics included in Caldwell and Eikenberry's *Elements of General Science* will be set forth.

1. *Weather Conditions*—If possible, secure from the local weather bureau several weather maps for successive days. If this is not possible, the school may subscribe to the map and have it delivered each day with the other mail. This will cost only a few cents per week. The superintendent of the local weather bureau will be glad to help in selecting a series of maps which will show a cyclone originating in the northwest and how it moves day after day. When this has been done, spread the maps on a table and with the student's finger trace around the isobars of a beginning cyclone. When the first map is familiar, turn to the second one in the series and show how the cyclone has moved, carefully noting any change in size and the direction it has gone. Continue this process with each map in the series through the last one in which the disturbance has disappeared.

2. *Distillation*—This experiment is easy to demonstrate, and may be thoroughly understood by the visually handicapped. Of course all of the necessary apparatus should be shown in the usual way. Use sugar or salt in the solution. When it is boiling, let each student hold his hand over the bottle and feel the escaping steam. Make the proper connections and after a reasonable amount of the steam has been condensed, let the student taste the water which has been collected in a flask that was previously empty.

3. *Ice Plant*—Our students are taken to the school's private ice plant. (They are previously warned to wear old or cheap clothing.) Here the teacher explains, to two or three students at a time, the entire plant, pointing out and letting the students place their hands on each piece of machinery, such as compressing pump, electric motor, ammonia tank, pipes, valves, brine tank, etc. By all means, let the students see the expansion valve because it is here that the ammonia is released from pressure and begins chilling. On one side of the valve the pipe carrying the ammonia may be several degrees warmer than body temperature. On the other side of the same valve we find ice on the pipe, even though there may be a distance of only four or five inches. The brine tank should also be examined by each student and its temperature compared with the temperature of the water in the ice cans. If the water in the cans is in the process of freezing, it will be noticed that that part of it nearest the brine begins freezing first.

When each student has had all parts of the plant pointed out and their functions explained, he is asked to write a paper on the subject and explain in detail the process of making ice.

4. *Electricity*—When this chapter is being studied, two complete wiring systems—parallel and series—are set up on a long table or about the room. Switches of different models, sockets for light bulbs, and both cylinder and screw plug fuses are installed along the line. Several burned-out fuses and light bulbs are dissected so that the students may see how they are constructed. Four to six dry-cell batteries (without a coil) are used to furnish electricity for these experiments. The pupils are required to properly connect the batteries with wires and then to connect them to door bells, small motors, and light wires. During all this time, an effort is also made to keep our work tables supplied with insulated wire, screw drivers, pliers, switches, magnets and such other equipment as we are able to obtain.

After the students have become familiar with the construction of light bulbs, fuses, switches, and closed and open circuits, I do something to our lighting system to prevent the lights from burning and then see if the students are able to find the trouble. Sometimes a fuse plug is removed. Again

one of the switches is opened, and sometimes the batteries are disconnected. This little practice seems to make clearer just what is meant by closed and open circuits.

5. *Astronomy*—Before the class is ready to begin the study of this subject, the following device to represent our solar system is made ready. A ball about twelve inches in diameter (a basket ball or globe serves very well) is taken to represent the sun. A sphere the size of a marble (the marble is too large if we were making an exact reproduction) is used to represent the earth. These two spheres are placed about eight feet apart on a table. Other spheres with their approximate sizes to represent the other planets are selected and placed at their respective distances from the sun. Satellites for the different planets are also put in position. Because of an insufficient number of spheres with which to make our diagram we sometimes substitute other objects to represent some parts of the work.

As the class begins the study of astronomy, they are given a sort of bird's-eye view of the whole diagram. We then begin a more detailed study of the sun, planets, and their satellites. The word *orbit* also seems to take on more meaning if two or three of the planets are carried through their approximate courses and carefully observed by the students.

6. *Stars*—When this part of our work begins, the students are taken to some place on the campus familiar to them and there the sky is divided into quadrants with lines running N—S and E—W. Some of the more common constellations in each quadrant for that time of the year are then pointed out. After the students have learned the names of eight or ten of the most familiar configurations and where to look for them, we then go to the classroom and each student proceeds to "make" these figures by arranging cubes of different sizes, rubber stoppers, and even small stones when our supply of cubes is limited, in such a way as to represent the constellation. After the group of stars is firmly fixed in mind we then begin to learn the names of the more common ones, along with any information we have concerning them. By following the above method, our students have been able to learn the shape and location of several of the more common constellations and also the names of a number of the stars.

Conclusion

While we are waiting for the time to come when blind students will have access to a better supply of well-made scientific equipment, especially adapted to their methods of learning, let us not forget that in many cases we can devise mechanical schemes, or bring into class commonplace objects, which will help to bring about the desired classroom results. In this way we shall be able to pass on to those who must use tactual methods of learning many important scientific truths.

(*Continued from Page* 28)

Almost all problems in connection with sight-saving classes seem not to be so serious as those in the residential schools. It is, however, essential that pupils in these classes develop habits of ocular hygiene and that their life plans exclude such things as would necessitate the straining of their already imperfect vision.

But it is impossible in such a short discussion to do justice to this book. It is so full of information and valuable suggestions that it must be read and re-read in order to be appreciated. It is to be hoped that all progressive teachers and workers with the blind will study it carefully.

Josephine M. Smith, of the University of Missouri, in an article, "The Sensory Functions of the Non-preferred Hand," in the *Journal of Experimental Psychology* for April, 1933, reports on her continued investigations on right and left-handedness. In these investigations, special attention was paid to the hands of the blind, and several well-known writers on the psychology of the blind are quoted.

BRAILLE MATERIAL IN LOOSE LEAF FORM

George F. Meyer

The tremendous bulk of braille printing makes one wonder why there has not been more demand for some plan by which special material could be more easily handled in looseleaf form. The assembling in one notebook of braille material of various types required by a single pupil represents such a convenience, affords such unusual flexibility, and is so practicable that the general plan deserves thought, particularly on the part of those who are interested in the education of blind children.

In the Sight Saving and Braille Classes of Minneapolis we have found the looseleaf notebook so valuable in meeting our special needs that others may glean from our experience something that they can apply in their particular situation.

Every sight saving and braille pupil is supplied with a three-ring, I. P. No. 701 Notebook, or its equivalent, taking a sheet measuring 8½ x 11 inches. These notebooks are not particularly expensive and last from three to five years with normal use. All braille paper, and most of our sight saving paper as well, is cut 8½ x 11 inches, and is punched for insertion in these notebooks.

Standard letter-size office files are supplied to each school using any considerable amount of material and all looseleaf material is properly filed. Braille dividers are supplied, so that pupils almost from the beginning accustom themselves to withdrawing necessary text material from these files or to reinserting it when they have finished with it. Much of our material is, of course, copied by hand from ink-print texts. In the upper right hand corner is given the serial number of the braille page, while in the upper left hand corner appears the number of the ink-print page copied.

In actual practice a pupil receives his assignment in the regular grade. When he reports to the sight saving class he goes to the file, withdraws from it a given chapter from, let us say, a geography text which may constitute his assignment for the next five days. At the same time he may withdraw from the file a chapter from *Heidi;* several pages of language material; a week's work in spelling; and perhaps special drill problems in arithmetic. The entire number of pages constituting that portion of his assignment that is available in braille, is encompassed in a conveniently sized notebook of from 40 to 60 pages. This he can carry from class to class or home with absolute comfort. When he opens his book to read, his assignment is not bulky or unwieldy; he does not attract attention from his classmates or others who may be about. When he has finished using a section he removes that part of it from his notebook and reinserts it in the file, choosing different material to take its place.

The notebook is, of course, of quite as much value for the material the pupil himself prepares—his list of spelling demons which is always conveniently at hand; any themes he may be writing; any special notes he may have taken in class; outlines prepared as the result of group work; arithmetic problems that must be corrected. In brief, he has assembled in one place everything that is worth keeping or to which he is obliged to refer from time to time.

The plan also has definite advantages from the standpoint of supplying text material to pupils. A single spelling book, for example, which is costly to copy by hand may supply as many pupils as there are grades or subdivisions of grades covered by the text. Two pupils in the same grade but under different teachers may often, without inconvenience, use the same looseleaf text material when assignments do not overlap too closely.

The uses to which such notebooks are put naturally vary considerably from the primary

through the intermediate, grammar school grades, and the high school. As pupils advance, demand for individual notebooks by departmental teachers naturally interferes more or less with the consolidated notebook. More economical looseleaf notebook covers with rings, such as are frequently used by high school pupils, often take the place of the larger ring binder notebook for classroom purposes, but the latter still serves as the repository for looseleaf braille or sight saving material. This applies particularly in the case of languages.

Despite its advantages there must be some reason why the notebook has not been more generally used in schools and classes for the blind. Perhaps it is because many notebooks used for this purpose have been clumsy makeshifts. I am wondering if this may not be because we have unconsciously tried to find a satisfactory binder for the large and unwieldy braille page. Such attempts must of necessity result in a clumsy notebook in which the student is likely to take little pride or comfort in study. A satisfactory notebook must after all, possess certain features if it is to be attractive to the pupil and if the pupil is to find it a useful asset, both during and following his school career. It must be a standard product. A special arrangement for meeting such a universal need must indeed have important advantages to compensate for the fact that it is a special device. It must be reasonable in cost. This, of course, can be best realized through the choice of a highly standardized book that has gained wide popularity. It must be convenient for the insertion and removal of material; it must be reasonably durable; and most important of all, it must be conventional in size and design.

Doubtless there are numerous notebooks that would meet these requirements, but we have found that the I. P. No. 701 notebook, taking an 8½ x 11 inch page, meets them all admirably. This makes possible a braille line of approximately 7½ inches and a braille page of convenient size. Typewriter paper fits well and ordinary ledger paper, always obtainable and satisfactory for braille, cuts to size without waste.

Naturally the looseleaf notebook is likely to be of more assistance to the pupil under some conditions than under others. Likewise teachers will vary widely in the merit which they place in such a device.

However, for years looseleaf material in the form of mimeographed sheets has had a prominent place in the public schools and the increasing number of small printing presses in schools for the blind and the growing development of simple means for duplicating braille material may in time make loose leaf material quite as common in the instruction of blind children. Even now there is a vast field for the production of such looseleaf drill or diagnosis material in reading, arithmetic, language, and perhaps other fields, in sizes which might be inserted in such notebooks to serve the pupil for a time and later to be discarded by him.

To those students who continue their work at the university and to those whose chosen field requires the keeping of neat and accurate records, the keeping of a notebook is indispensable. The proper organization and upkeep of a notebook should be made a part of the instruction of all such pupils.

The Girl Scouts of Troop 39 in the Territorial School for Deaf and Blind, Honolulu, sent to the Girl Scout National Convention held at Milwaukee, October 11-13, a flower lei—beautifully made of several shades of yellow crepe paper. The lei is Hawaii's token of Aloha (love). It was accompanied by a card of greeting written in three different forms of braille. Troop 39 of the Territorial School is one of seventeen Scout troops in schools for the blind, which have been reported to the Girl Scout National Organization.

Information regarding scout troops for blind girls may be obtained by writing National Headquarters, Girl Scouts, Inc., 570 Lexington Ave., New York.

THE TEACHERS FORUM
for
Instructors of Blind Children

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EXCEPTIONAL CHILDREN

A copy of the program of the Second Annual Meeting of the Pennsylvania State Conference for the Education of Exceptional Children, held this Fall at Harrisburg, has called the attention of the Editor to this worthwhile forum.

A glance at the Constitution of this Conference shows a fourfold purpose: (1) to promote the education and training of mentally and physically handicapped children in Pennsylvania; (2) to formulate and advance special educational standards; (3) to foster a closer relationship between special education and the State special educational systems; (4) to protect and advance the interests of its members and stimulate professional growth.

Twelve sections of this Conference are authorized at the present time: Orthogenic Backward, Orthogenic Disciplinary, Restoration, Orthopedic, Blind, Partially Sighted, Deaf, Hard of Hearing, Speech Correction, Mal-nourished or Tuberculous Cases and Cardiac Defectives, Gifted, Psychologists and Examiners.

Two general sessions and section meetings were held for each of the twelve groups at the Harrisburg Conference. Included was a combined conference for workers with the blind and those professionally interested in the conservation of sight.

Not only is such a conference valuable in the opportunity it gives for a discussion of specific problems in each individual group, but also because it makes it possible for each person, dealing with a certain class of exceptional children, to gain a broader background for his work through an enlarged vision of the problems of workers with all classes of such children.

Forum readers will be interested in the October, 1933 issue of the *Outlook for the Blind,* which contains a detailed announcement of the Third Annual Literary Competition for blind people throughout the world, conducted by the National Institute for the Blind in London.

Our Contributors

Dr. Samuel P. Hayes, Professor of Psychology at Mount Holyoke College, South Hadley, Mass., is Psychological Assistant at Overbrook and Perkins, and is now acting as Consulting Psychologist for the American Foundation for the Blind.

Dr. P. C. Potts, Superintendent of the Idaho School for the Blind, was formerly Principal of the Maryland School for the Blind. In this issue he reviews, from the standpoint of an educator, Dr. Ralph V. Merry's worthwhile book dealing with the education of the visually handicapped.

Miss L. Elizabeth Oberly has been Principal of the Western Pennsylvania School for the Blind for a number of years.

Mr. A. D. Hurst, Teacher of Mathemathics and Science in the North Carolina School for the Blind, will be remembered by *Forum* readers for his article on geometry which appeared in this magazine about a year ago.

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The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

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MAPS WHICH TALK TO THE BLIND

Etta Michaels

The General Value of Maps

To be of the greatest value in the teaching of the blind, maps must be both flexible and adaptable. Most of those published have their limitations in these respects. The maps coming to our attention seem to belong in one of two classes—either those of general utility, meeting very many needs, or those of specific limitations, which do not permit of extension of use. Classifying them according to materials, we may have the general map, carried out in braille, which is so filled with braille symbols that it is difficult for fingers to read, and also impossible to add to, and therefore not adaptable for various uses. These are not without use in classes of the blind. The over-complex braille map is of value in final projects after the pupil has finished studying many simpler ones, working out single details, thus preparing the way for the composite map. The second type of map is particularly useful in training fingers for recognizing general contours, or general relief features. Sectional maps of this type give individuality to the different countries, especially as to space relationships.

In our effort to find a method to express to our blind children ideas which we would present in some graphic form to the seeing children, we have developed some interesting types of map. The children's response seems to have justified our efforts.

United States Product Map

The first need which we tried to meet in our map work was a type which would enrich the experiences of children, and for this purpose we worked out a product map. As we worked on this we felt the need growing for other types of maps. One was a big wall map which could be read by the fingers of the blind, and also small individual maps which were simple in their plan and would illustrate features that we were studying, leading the way into the use of the more complex braille maps.

The product map which we attempted was worked out in connection with the work in the fourth and sixth grades in United States Geography. A very large outline map of the United States was prepared. Outlines of states were sewed in with wool, rivers were outlined with picture wire, and lakes were made of melted wax. One realizes that there might be criticism of the use of these everyday materials in the construction of the map, as being very far from real ideas of rivers and lakes, but at the same time, to fingers which were groping to get ideas, this map seemed to have a real meaning. The fingers could easily run over this map and get the sense of the building up of the country, of the great river valleys, of the mountains; and as we discussed this map children could see the influence of the mountains upon climate and upon soil formation, and could realize something of the possible activities that were taking place in different parts of the country.

As we began to work on the individual groups of the states, the product map of that locality was worked out in detail. The material which was added to the big product map was always justified by relating its production to the physical features that we have mentioned. In the Northeastern states we found the lumber of Maine, leading into the industries of lumbering and ship building. Among the mountains of Vermont and New Hampshire the granite and marble lead into the industries of quarrying and the manufacture of building materials, and in Massachusetts there was fishing along the coast and much manufacturing, because the rivers gave ample water power. In New York it was easy to see why New York City, at the mouth of the Hudson River, became so prominent, and to realize the type of

products that would be common in that locality. It was also easy to see why western New York was so naturally a dairy locality, with the fertile fields, fine pasturage, and the large cities, near at hand, needing all possible dairy products. In Pennsylvania our product map told of the kinds of coal which were found, and of the oil wells over the mountains; and then in Chesapeake Bay there were the oyster beds, and in New Jersey the truck gardens.

As we studied our states, and worked on our map, all things seemed related. Each group of states was taken up as we came to it. The rest of the map still remained a bare outline. Other children coming in would say, "How slow you are in building up your map" and "When are you going to finish your map?" They were always exceedingly interested when we told them that the map grew just as fast as our work grew, and before very long many of the children in the different groups were waiting to see what had happened to our product map.

As the work went on, comparison of industries was carried on. We found dairying in New York, and dairying in Wisconsin and Minnesota, and there was much comparison to see whether conditions were common in these localities. The maps seemed to give an endless basis for reasoning out things, and for the making of these comparisons. Quite frequently such studies as this, on the map, preceded any work in textbooks, and the children were proud indeed when they were able to reason out things which they verified in their study of the text. It was easy to make a comparative study of the North and the South. There was a very marked contrast between products in these localities, while there was a certain similarity in a study of a cross-section of the United States from east to west.

When this map was completed it was not a thing of beauty. In attempting to have the appeal entirely to the fingers we found certain products impossible to illustrate well and in those cases only braille tags could be used. Also, in trying, for example, to show the different localities producing cotton, our map came to have a loaded effect. These are some of the problems to be met in working out a product map for the use of blind children. However, as stated before, the value of the map was in the growing situation that it constantly presented. It justified itself as we were working on it. The finished map is of much less value. The idea of a product map did not appeal to us so strongly as to make us apply it in the study of other countries. Instead we used the general idea on our big wall maps, using braille tags to indicate whatever was to be made the basis of our comparative study.

Development of Individual Maps

Our next adventure in map making was to attempt to find some simple way of expressing map ideas, just as with seeing children we would sketch on the blackboard or make quick map illustrations with the large crayolas. We found the need for having small individual maps, which the blind child could handle as he wished, and work out on them any idea which he was attempting to express. The first maps of this kind that we made were to meet a rather definite problem. We wanted the study of cities not to become just a mere learning of certain facts which we might read in regard to these cities, but to make the children realize something of the reason for big cities developing in the localities where they are situated, and to make them feel that the cities are an outgrowth of the conditions in the localities.

When the discussion revealed how slight a relationship these children were making between these cities and the land upon which they grew, to make the matter clear we began by taking a certain city and just sketching in our minds the things that were there. First there were the great mines under the ground, and the industry that came from them. Hence a little settlement was formed. Then there was the development of a steel industry. From that steel industry came

many other types of manufacturing. The settlement had grown much larger in size, and was drawing upon the country around for its food, so now above our mines we have a city with all of its occupations, and an agricultural country developing about it. As this city became larger and richer many more needs of the people had to be met, and universities, libraries, and art galleries came to give culture to what was before a purely industrial city.

This study seemed very interesting, and someone suggested that the various groups work out similar studies of different cities. The next day we had ready at class time some small-sized maps, formed merely by tracing around our sectional map and stitching the outline in with an unthreaded sewing machine. We inserted brass staples at city locations, and, as we found interesting things, piled our labels, one on top of the other, over our particular city. This piece of work was intensely interesting to the group and it gave a certain relationship of geography to human interests that we had not realized before.

One of the brightest of the blind boys in the class made the comment that this was the first map that ever meant anything to him. He brought out the idea that other maps were so full of signs that he lost himself, and that he felt it would mean a very great deal if, as we studied the different countries, each member of the class might have his simple raised map to follow as he worked. We have followed out this idea in many of our classes and have found real reward for the effort put into the making of individual maps.

Some method of making these raised maps quickly was needed. The idea of using a cake decorator finally suggested itself, and it seems to meet our needs in every way. The material used to pipe through the decorator is made of equal proportions of flour and salt, with just enough water to make it of about the consistency of library paste. The different attachments of the decorator may vary the size of the piping to indicate the various things illustrated—broad piping for ocean edge, narrow for rivers, and dotted lines for political boundaries.

Development of the Large Wall Map

We still felt the need of a big wall map which we could make serve our purposes better than anything we had on hand. We conceived the idea of getting wall board and working out a large-sized map of Europe, for we had many children who would be studying this part of the world during the year. The people with partial vision painted it in water colors, just glorying in the gorgeous coloring which they were able to give to it. Then we took our cake decorator and outlined our map, using the broad lines for big sea boundaries, finer ones for the rivers and the edges of small inner lakes, and dotted lines for political boundaries of countries. The capital city was a thumb tack imbedded in a little mound of salt and flour composition, so that even nervous fingers could not easily pry it off. With a sharp pair of shears we gouged out the surface, forming lines of roughness which indicated the mountain ranges, and then the whole was thoroughly varnished so that it could easily be washed, and thus be completely sanitary.

This map has been of the greatest value to us. It is very attractive looking and the children with partial vision are always making the rest of us feel its warm colors. Then, it is interesting because we use it in so many ways. At times we use it for a study of the cities; at other times, for a study of the natural features of a country; or again we may use it for the study of a single product such as wheat, or as the mineral map of the country. It is in constant use for these different purposes. It is so valuable to us that we are anxious to have other maps of other sections of the world which will serve the same purpose. It seems to be the favorite map with the children. We study the contour maps with our fingers, and from these the children like to go to this flat wall

map which is so simple in its make-up that it clarifies the ideas gained from their contour study.

Use of Plasticine for Temporary Purposes

These large wall maps, such as that of Europe, we might call the general utility maps. After one is finished it is there to stay, and has expression only as we make it fit our needs. But there are other maps which are directly an expression of ideas. These are the maps which we worked out with plasticine. Frequently the maps are models of something which we wish to discuss with our class, as, for instance, the idea of New York Harbor, with Manhattan, the Palisades, and the things which really have done much to contribute to the development of New York City. While this map was worked out to illustrate a talk on personal experiences in New York City, it was so valuable that it was placed on file. It gave a background for reading, and is frequently brought out from the file and called into use again. Connected with this map was a little sectional illustration of the tunnel under the Hudson River, and of the skyscrapers which give the wonderful skyline to New York.

Frequently, as we have been discussing a topic, the children take plasticine and try to express their idea of that which we have been studying. Sometimes the results are quite unusual. One day groups of children were working on irrigation projects. One committee dashed on the plasticine and very rapidly formed mountain chains with intervening valleys, put their dam across, created the gateway, built their ditches, and in a very few moments of time had the water well on its way to the farms and the valleys below. Another committee worked out the plan in the greatest of detail, plotting out a whole countryside with each farmhouse in its place. The first was a far better expression of the mapping of the country. But each group felt a keen interest in the work of the neighboring committee. In fact, the boys who did the dashing piece of quick work felt that it was hardly worth noticing, after they had seen the detailed work of their neighbors.

There are endless possibilities for such construction work and the more often children can express their own ideas with the fingers, the more they clarify their thinking.

Map Project in Salt and Flour—Panama

Sometimes in our own earlier experience we had worked with the salt, flour, and water composition for the making of contour maps. In this present experience of working with blind students we have had the feeling that there were great possibilities in using this material in working with these children. A small group of boys became very interested in a problem of the Panama Canal. They wanted to find out all it was possible to know about it, and because they were so keenly interested the inspiration came one day to have them attempt to work this out in a permanent form by using the salt and flour composition. Our adventures were many, and sometimes very discouraging, but we kept on and we have an interesting piece of work as a result. The greatest difficulty was in building up a foundation of salt and flour for great mountain ranges which had to be cut down to make way for the canal. We remembered in reading of the Panama experience of how this Culebra Cut kept filling in. Our sympathy was quite with the engineers in this proposition, for our salt and flour also refused to stay where it belonged. After several experiences which left us without much hope of finishing our piece of work, we found that we needed to build up a frame work; so the boys went out into the engine house and brought in some coarse cinders from the ash pile. We fastened these in place with salt, flour, and water, and then left them to dry. They gave us the foundation we needed, and then we could build up our mountains and our plateaus, and the locks of the canal, and the rest was easy to make.

On completion, the boy with partial vision was happy to use water colors and color it to represent the Panama country. Because

of the peculiar situation as to direction, which we find in the Panama locality, the sketch of the whole isthmus was made with India ink and placed at the bottom of our map so that directions might be verified. The whole thing was now treated with several coats of varnish. The boys made a frame for it to partially protect it, and our Panama map can even be put under a faucet and cleaned. The thrill which came when the work was completed and the committee of boys presented their Panama problem to various groups, both older and younger than themselves, was sufficient pay for the time spent in overcoming the many obstacles. We had in mind working out the same idea in the Great Lakes region, showing the drop from lake to lake, and perhaps incorporating the St. Lawrence Oceanway plan.

Map Book of the United States

The success of our flat wall map of Europe led us into making maps of the same construction, but for different purposes. We called this our map book of the United States. The inkprint geography makes much of its material clear to the seeing children by the insertion of small maps and graphs, each telling its own particular story. We have incorporated the same idea in this map book. The maps were worked out in halves so that the complete map goes across the double page of the book. The foundation maps were identically the same, with the exception that colors varied according to the mood of the partially seeing children who painted them.

On a rainfall map of the United States in an inkprint edition, series of lines and dots would indicate to you localities of greatest, or of smallest rainfall. We have utilized different devices which may appeal to the fingers to indicate these characteristics. Our rainfall map is marked off in sections, just as the sections are marked in the inkprint edition, but to indicate the lightest rainfall, little triangular discs of very heavy cardboard are glued on the localities having such rainfall. Beebe shot massed on the foundation of salt and flour shows where the rainfall has been the greatest. Another locality is covered by heavy pasteboard which is filled with perforations. We have carried out this idea on all of our maps. In the case of such products as wheat, corn, and cotton, we have used the actual material, not to make realistic maps, but to give interest through variety of illustrations.

The different pages of our map book cover the following topics: surface and soils, rainfall, temperature, mineral resources, coal and petroleum, dairy interests, raising of beef cattle, population centers, manufacturing areas, and others of similar nature. We happened to have a discarded exhibit case. Our maps were inserted in the panels of this case, forming two volumes because of the arrangement of the case. With the two series, it is possible to make comparisons which demand a good deal of thought from the children. For instance, it is possible to take the surface and soil map of one volume and compare it with the wheat map in the second volume, and thus get the relationship between these two studies. The map book affords many such possibilities and we feel that it repaid us for the time necessarily spent in its making. We made our outlines with the salt and flour composition used in our large wall maps.

In fact, we found this a very rapid way of sketching maps which we wished to have in permanent form. When this composition dries and is given a coat of varnish, it seems as hard as stone, and will probably last as long as the map is really useful, because such maps must change, as data change.

We have one map dream ahead, and that is to make a very large wall map, extending from the baseboard up to as far as the arms of the children can reach. We want this map in order to make comparisons with other countries; to indicate, with thumb tack and string, possible journeys, old travel routes, and the like; to mark off, possibly with braille labels, all the certain production areas of the whole world.

Series of Maps for Filing

So far as possible, we try to express map ideas of permanent, or at least those of more than temporary value on the wall board. This material can be made perfectly sanitary by means of paint or varnish. When so treated, it has a hard surface which does not show usage easily. It is light enough in weight to make it practical for maps we wish to file. For the small maps for individual study we adopted two sizes, 10" x 15" and 16" x 24". By using these uniform sizes, we find them more convenient in every way both for filing and for making map series. We have had tips added to the corners so that one map will not wear against another as it is packed away. A map idea which had taken considerable time and research to work out is considered worthy of being put into this permanent form.

One interesting group which started the year before and had gone somewhat further last year was the set of our home state. The set thus far is called a geological set, for the first represents Wisconsin as geologists tell us it was before glacial action so radically changed it. We see the remains of the ancient mountain ranges and near the center is the isle of Wisconsin, an outcrop of Archaean rock found coming to the surface of the earth in a few places. In all of this series this isle of Wisconsin is noticeable for being in the driftless area, as it was untouched by the glaciers, and therefore must appear unchanged in each one of these geological maps. The second of the series is the real glacial map of Wisconsin—Wisconsin as it may have appeared with the great sheet of ice and snow covering a large portion of its surface. The next in the series shows the moraines left by the last of the glaciers, thus marking the gravel hills found in certain localities of the state. The fourth of the series shows the effect of the glacier's work on the surface of the state, for it scraped off the surface soil, leaving various surface rocks exposed.

(*Continued on Page* 55)

THE FOUNDATION LIBRARY

The long anticipated biography, *Anne Sullivan Macy: The Story Behind Helen Keller* by Nella Braddy, was published this Fall by Doubleday, Doran and Company, Inc. This absorbing story of a great teacher has been condensed in the December 1933 issue of the *Reader's Digest,* under the heading, "The Other Half of Helen Keller."

The United States Office of Education has recently issued a pamphlet "Teachers' Problems With Exceptional Children, I. Blind and Partially Seeing Children" by Beatrice McLeod, Senior Specialist in the Education of Physically Handicapped Children. This publication, which is provided with many references and statistical documentations, should prove of great help to teachers in schools for the blind as well as in sight saving classes.

. . . *And There Was Light* for September 1933 has an article called "Girl Scouting Spells 'Opportunity' To Many Blind Girls" by Helen Ward Stevens, Member of the Board of Directors and the Program Committee of the National Girl Scout Organization. According to this writer, the National Headquarters has information on Girl Scout troops and Brownie Packs in eighteen schools for the blind in the United States. A list of those schools is given.

The Commonweal, October 27, 1933, in "Laski" by Marguerite Wrzesien, gives the story of the Laski Institution for the Blind in the vicinity of Warsaw, Poland. This institution was founded by a blind Franciscan nun, Mother Elizabeth Czacka, and from a very modest beginning, has been developed into a modern school and home for the blind.

"An Analysis of the Relationship Between Tactual and Visual Perception" by Thomas D. Cutsforth is printed in the *Psychological Monographs,* Vol. 44, No. 1, 1933. A footnote to this paper states that it was submitted to the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

HELGA LENDE

ARITHMETIC GAMES IN A SCHOOL FOR THE BLIND

CONSTANCE MOREY

In teaching arithmetic it is necessary to form habits of knowledge and skill on the part of the students which are more than mere repetition. The wish to excel and to play is instinctive in almost all children, and it is desirable to make use of these tendencies in developing proper skills in the children's number work. Although games and devices are plentiful for children with sight, there are comparatively few that can be used with any degree of success in work with classes for the blind.

In my arithmetic classes at Overbrook I have found a "baseball" game very helpful in motivating arithmetic drill. As our pupils are great baseball fans, no interest in the game itself had to be created.

In administering the game the class is divided into two teams. While the students comprising one team are at bat the others remain at their seats as fielders. The teacher is the umpire as well as the pitcher. It is more satisfactory for the teacher to act in these capacities for she can see that the kind of examples "pitched" are those best suited to the grade, and the work that is being done at that time.

The catcher is on the opposing side. The batter must answer two successive examples correctly in order to score one point. Each time the batter misses, or is too slow in answering, that example goes to the catcher who, if he answers correctly, scores one point for his side. Every mistake made by the batter counts one point against his team. The opposing team also loses a point if the catcher fails. The answer must be correct the first time or no credit is given. This ruling adds much to the accuracy of the work.

If the catcher is alert he gives the correct answer before the batter realizes he has made an incorrect answer. This adds a point to his score. Most of the time the batter corrects his mistake so quickly that he loses just the one point for his team, for there is no opportunity for the catcher to score. Such moments are very exciting! Each time a team goes to bat there is a different catcher on the opposing team.

The children at their seats are to be ready with the correct answer in case those who are at bat fail to give it. I find that they are fairly alert, for they have learned that the more examples each one solves while not at bat, the better work he can do when his turn comes.

The game must serve a real purpose and not be played just for the pure fun of it. Such examples as the following are representative of the drill given in the four fundamental operations: $8 \times 16 = 80 + 48 = 128$; $8 \times 76 = 560 + 48 = 608$ (left-hand multiplication); $78 + 86 = 158 + 6 = 164$ (left-hand addition); $83 - 45 = 43 - 5 = 38$ (left-hand subtraction); $58 + 7 + 6 = 71$; $71 \div 8 = 8$ and 7 remainder. Fractions, decimals, and drills suitable to the work of the day are used. It can readily be seen that some of these examples require considerable concentration. The first two kinds of examples are helpful in long division.

In the lessons following the ball game the pupils are encouraged to apply the examples used in the game in the solution of their home and class work. The younger children like to tell how many times they have made use of "left-hand" multiplication, addition, or subtraction. To some of the slower children these examples are merely features of the game because they are unable to tie them up to the solution of the problems.

Pedagogically this type of motivated drill may not be approved by some. However, several pupils, of whose ability to learn the multiplication or division combinations I had despaired, have become quite proficient because of their interest in these ball games.

The games are so popular that the chil-

dren are willing to give any amount of drill to new work, no matter how difficult, when they realize it will probably be used in their games. Captains, especially in the lower grades, feel responsible for their teams and often do much drilling of the slower pupils outside the class room. Considerable pressure is brought by the rest of the team if a pupil does not improve his game and it behooves the lazy or indifferent pupil to exert himself or he will not be wanted on either team. The very slow child who does the best he can is a problem in the administration of these games.

The games furnish an excellent opportunity to teach courtesy, kindness, and good sportsmanship. Several times games have had to be discontinued for a while because of an unkind remark or too much arguing. The offender usually apologizes very quickly as the children are eager to resume their games. If he is slow in making amends the rest of the class do not give him any peace until he has admitted his fault.

We have three series of games during the year and keep the scores from week to week. We usually have one game a week in each grade. Perhaps two or three times during the year one grade challenges another to participate in an inter-grade match. Invited friends at these contests add a further element of interest.

The "I am thinking" game is a favorite with the younger children when working on addition or multiplication combinations. Each child is given one or two numbers, depending on the size of the class. Such statements are then given, preferably by the teacher, as those which follow: "I am thinking of two numbers whose sum is ———"; "I am thinking of two numbers which give 54 when multiplied"; "I am thinking of two numbers which give 6 when one is divided by the other." Those having the numbers required for the answer run quickly to the front of the room and find their partners. If perchance a boy does not recognize his number as one necessary to make the required combination his partner calls for this number.

The children enter into a game called "Sheep and Wolf" with a great deal of zest. This game is also designed to give practice on the combinations. One boy is chosen for the wolf and the rest are the sheep. Examples are given to each sheep in turn. If the answer given is incorrect, or there is too much hesitation before giving the answer, the wolf gives the correct answer and wins the right to "eat the sheep" who made the error.

After the multiplication combinations have been fairly well learned the old game of "Buzz" furnishes the teacher with an opportunity to change the procedure. This game of Buzz has been popular as a parlor game for many years. It is a counting game. Each child in his turn calls the next consecutive number. In place of the number seven (any other number may be selected) or any multiple of seven, the word "buzz" is used. When seventy-one is reached, "buzz-one," etc., are called up to seventy-seven ("buzz-buzz"). Each time seven or its multiple is given instead of the word "buzz" the player who makes the mistake forfeits his place in the game; also he is out if he loses track of his number or of his turn.

Another very simple game which the children enjoy is that of having each child stand as he gives an incorrect answer. Until he has given two consecutive correct answers he must remain standing.

Recently I learned of a very good game for written work. It emphasizes both speed and accuracy. At a given signal the children start working an example and as they finish form in line at one end of the room; the first to finish is first in line, the second to finish, second, etc. The answers are then examined by the teacher and those with incorrect answers take their seats. The last one in line gets a score of one, the next, two, etc. After four or five examples have been worked the total score is found. The

(*Continued on Page* 55)

DOCTOR ALLEN SAYS:

HERBERT SPENCER PROCLAIMED THAT A SCIENTIFIC EDUCATION IS THE MOST WORTHWHILE.

Natural history had provided me boyhood hobbies—pressing, labeling, and mounting wild flowers, collecting minerals, grafting fruit trees, improving my strains of pigeons, hens, and bees. So biology gradually became my major pursuit at college, as leading up to medicine. I had not expected to follow teaching, certainly not blind children. But I liked it from the first. It seems that my scientific interests and training had developed inventiveness, a spirit of inquiry, an open mind, and an urge for continually improving and advancing my school and the cause of blind people that nothing has ever checked.

My determination to transform into a real school, the Philadelphia institution for the blind, which the managers themselves in annual reports referred to as having been in part a "refuge" and as an "asylum" previous to 1891 when we were still eliminating the adults and had just graded the pupils and begun to employ only normal-trained teachers—all this challenge brought about the many leavening influences which together demanded Overbrook, that reconstruction which was to mean far less as material plant than as spiritual environment.

Child study was in the air in these 1890's and experimentation became my immediate avocation. My year of medical studies now stood me in good stead, for I often recorded for our oculist his findings of the pupils' eye conditions, and besides attending some eye clinics and operations at hospitals, I occasionally assisted such other specialists as did research at the institution. Then going to summer sessions for child study and psychology under G. Stanley Hall at Clark University and for the theory of physical training under Dr. Sargent at Harvard, I began to apply their principles and methods towards a better understanding of my pupils.

A new application form was drawn up and replies to its searching questionnaire were begged from the parents of them all. Visiting parents were interviewed and the pertinent data recorded on specially prepared cards. The teachers cooperated, writing out full characterizations of their boys and girls, and their findings of what each new child knew upon entering school. They made a study of class subjects according to pupil likes and dislikes; whereupon we completely revised our teaching of the most unpopular, history.

They measured all heights, weights, and lung capacities and from the data charted the anthropometric curves appearing in our annual report for 1897. This showed us that, in growth and vitality, our children were decidedly below Dr. Sargent's normal curve for youth of corresponding ages. We also tested the speed with which our older people replaced the cut-outs in a form-board wholly new to them and, while one blind boy led everybody, we found that the blindfolded teachers taking the test were generally superior to their pupils.

Dr. Hayes' Sensory Compensation article in the last *Teachers Forum* has reminded me to include here the simple form-board test just described, also the following interesting experiment I made with my first little daughter whose progress from birth I had been noting down from day to day. When she was two and a half years old I gathered a promiscuous fifty of her playthings including three named dolls, and taking a basket of these and the child into my photographic dark room, learned to my astonishment that she recognized every one of them by touch alone. Nor was I less surprised by the readiness with which I too recognized them in the dark.

TESTED PROJECTS IN HIGH SCHOOL ENGLISH

Myra Manning Koenig

Just as each residential school for the blind has its own background of history and tradition, so each English department is apt to use classroom projects which may be of interest to similar departments in other schools.

In our senior high department at the Iowa School for the Blind, we have a five-year course which approximates the four-year courses offered in the public schools for Iowa's young people with normal vision. Naturally, because of the mechanical difficulties involved in reading with the fingers, a boy or girl with defective sight cannot grasp the meaning of an assigned braille lesson so quickly as can a pupil who comprehends the import of an entire sentence or more at one swift glance. Besides, our pupils give more time to industrial and musical study than the average pupil of a public high school. These reasons explain our additional year in the senior high course.

Correct spelling and grammar are two aims eternally striven for throughout the grades. However, the magical process of enrolling as a junior or senior high pupil does not always impart the ability to spell correctly or use faultless grammar. The battle against these twin "bugbears" of good spoken and written American English must be waged every day. But we find that since the study of typewriting is now begun at our school in Grade Five, there is an improvement in spelling. Sometimes a pupil on the verge of graduation is found to be incapable of spelling accurately at all times. I doubt if any school for the blind has reached the high eminence of being sure that every pupil in a given graduation class is unfailingly correct in spelling—always and everywhere.

In Grade Nine, where our course is largely given to strengthening the pupils' understanding of the essentials of English Grammar, the teacher has devised a system of class competition which often has acted as a spur to backward spellers. Likewise he has kept a rigid record of grammatical errors to which each pupil is most prone. Many a pupil, realizing that he will be graded according to his definite effort to overcome these specific faults, has revealed surprising ability to improve within a six-week period.

In Grades Ten and Eleven, our courses in English Composition and History of American Literature alternate, one being given every other year. Pupils enter the study of English Composition with fresh enthusiasm. Based on the five broad divisional forms—Description, Narration, Exposition, Argumentation, and Persuasion—individual ability is at once brought to light in the class forum. The boy who can paint a word-picture of his favorite fishing haunt on a cloudy August day, just as an artist would use his brush and oils, holds the attention of his classmates. One who can narrate an amusing anecdote so that "Laughter holding both his sides" is to be seen in every seat bids fair to be a popular fellow. If a boy can clearly explain how he tunes a piano or makes a door-mat, or if a girl can tell just how she makes angel-food cake—and tells it so vividly that our mouths water—such a wielder of words may not fear to speak before a larger audience than that of the classroom.

Often on a warm September afternoon when we are studying Description, pupils will leap to attention if I say: "For ten minutes think intently, choosing some man or woman famous in American history. Describe the appearance and character of this person and tell how he became famous. Don't mention his name. Let the class member who first guesses the name correctly next have the floor."

In March of 1933 each of the two divisions of English Composition studied news-

paper narration. As a project, each division got out its own newspaper, selecting respectively the names of *The Flash* and *The Whirlwind*. Electing their own editorial boards and reporting staff, each member was required to be a contributor. Editorials, news reports, personal items, stories, anecdotes, humor bits, accounts of school organizations—even verse—found place in the pages of each newspaper. Typing and arranging of the paper were done mostly by class members.

Under Exposition our special project was to study the structure of Lincoln's "Gettysburg Speech" (memorized in Grade Eight, while studying *The Perfect Tribute*). Following intensive study of this classic speech, the project undertaken was that each pupil should write, in similar structural form, a speech of not over three hundred words, the subject to be chosen from one of ten suggested. On a date individually assigned each speech was to be delivered. Not one class member defaulted. The speeches were unexpectedly worthwhile.

Into the work of this same class group always comes the annual project of entertaining the Senior Class each spring, on a date reserved for that event by the Superintendent. It is always fascinating to young people to learn the socially correct way to do courteous acts. For some years this function has been the joint project of our English and Domestic Science departments. Committees appointed by the entertaining class arrange for decorations, select a program theme, and plan for After-Dinner speaking under my direction.

Of course debating is the practical project in the study of Argumentation and Persuasion. Topics of present-day appeal, such as "Resolved, That the system of Daylight Saving Time now in use in many Eastern states would be of benefit to Iowa" were studied and debated effectively. In every English class frequent opportunity is given for training in extemporaneous speaking. We believe that the alert mind in the agile body must be ready to respond to any unexpected call.

No course in English in our senior high school has absolutely the same form of stereotyped procedure from year to year. If an improved method can be helpful, we want to give it a trial. Although modern English texts are not often put promptly into braille for pupils' use, yet I select whatever is available and adaptable to my classes and give it to them by dictation.

Our courses in the history of American and English Literature call for the pupils' correlation of every bit of historic and literary knowledge. Whenever practicable, interesting talks on famous places, and haunts of literary people, are given by those who have visited them. Material for individual reports on specially assigned topics is eagerly sought for by class members. As a variation from the well-known book report, we sometimes call for tabloid reviews, condensed into fifty words only. Often this proves a mental tonic.

Love of reading varies in different individuals. Some of our pupils have been known to read forty or more braille books in one semester—besides required reading. Two of our Grade Eleven pupils read the sixteen volumes (in braille) of Hugo's *Les Misérables,* in addition to other reading and participation in many outside activities during the second semester of 1932-1933. Some of our pupils are too much addicted to the mystery-story habit. In my opinion a mystery story should not make up the steady reading diet of any individual. A good mystery story tones up the mind and helps it to relax. But a more solid food—good biography, history, novels of real value—should supply tone to the "mental stomach" before the mystery "lollypop" is added.

All types of pupils enjoy Shakespeare. Through Lamb's *Tales,* classes have earlier been made familiar with many famous plays in simplified story-form. When, in Grade Nine, we devote about two months to the introductory study of Shakespeare, we find

quick response to the historic tragedy of *Julius Caesar;* the tragi-comedy of *Merchant of Venice;* and the romantic tragedy of *Romeo and Juliet.* The foundation for more mature study of Shakespeare we try to lay firmly in Grade Nine. The distinctions between tragedy and comedy, with possible variations and combinations, are stressed. Place and time settings must be clearly understood. Underlying action, plot study, character groups, parallelisms, and motifs must be recognized as of dramatic value. Effort is made to have the pupil feel the psychological reason for Shakespeare's use of prose, blank verse, or lyric forms. But the universality of appeal in Shakepeare's characters is unfailing.

In Grade Twelve we study a group of the heavy tragedies, along with History of English Literature. *Macbeth* and *Hamlet* are always studied—sometimes *King Lear* or *Othello.* The fundamental psychological idea back of each of these great tragedies is apparently easily grasped by serious students. Passages to be memorized are attacked with vigor. While much of Odell Shepard's valuable text *Shakespeare Questions, an Outline for the Study of the Leading Plays* (Houghton Mifflin) is too involved for the average senior high student, some of the suggestions for study and classroom assignment of topics there given will be keenly seized upon by our young people in schools for the blind.

Our most advanced course in English is the one listed as Creative English. In this (for Grades Twelve and Thirteen) we first study patterns of meters, stanzas, and rhymes. Laboratory work is required, each class member being assigned to compose and bring to class a certain number of lines of required meter and stanzaic structure. Often genuine verse-writing talent is revealed. As foundation for material and subjects discussed in this course I use a D. C. Heath publication, *Recent Poetry from America, England, Ireland and Canada,* collected and edited by Roy L. French, M. A. I wish it might be put into braille. Dictation of selections eats up class time. In 1931-1932 one of the Creative English projects was the composing of a sonnet by each class member. When corrected, retyped, and compiled in attractive book-form this *Book of Sonnets* was presented as a Christmas gift by the class to our Superintendent and his wife.

Another project of this course was the original composition of a one-act play, following our study of that modern form. The modern essay and short story are also studied in this course.

Some of our graduates who have attended college later have proved their ability to do creative writing of real value. Some of our present student group feel the urge to write. If literary talent is really theirs, we want to help them develop it.

Any really worthy study of English demands a broad cultural foundation. While our American English of 1933 is an intensely alive tongue, yet its roots go back far into centuries remote from present-day experience. I fully agree with the statements made by Mr. Leo J. Flood, of the Illinois School for the Blind, in his scholarly article on "The Value of Latin for Blind Students," in *The Teachers Forum* under date of May 1933. "Latin is necessary to gain any historical grasp of the English language and literature. By its logical precision it is invaluable towards forming a habit of clear thought, and towards enabling people not only to think clearly, but to express their thoughts accurately, in English."

In addition to the essential knowledge of Latin, an understanding of as many other languages as possible is always needful for the well-equipped teacher of English.

If it is true that English is (as has been stated more than once) the most difficult subject to teach, I yield to none in my belief that it is unquestionably the most fascinating.

PRACTICAL GARDENING AT PERKINS

Nelson Coon

The values of contacts with the soil have long been known, and these values are especially great for those who are visually handicapped. The English people have perhaps been quicker to grasp this fact than anyone else. The Guild for Blind Gardeners has been operating in England for a number of years, and with great success. Among the first schools in the United States, however, to take some action on this theory is the Perkins Institution at Watertown, Massachusetts, where, during the spring and summer of 1933, an experimental class was conducted in practical vegetable gardening.

The work was conducted with several different groups and in different manners, and the experience gained as a result of these classes will be very valuable in guiding future work of a similar kind.

For two of the groups of boys about fourteen years of age, the work was solely devoted to classroom instruction, the lecture period extending from February until June. The lecture work was largely by way of laying a general foundation of knowledge of plant growth and specific instruction as to the nature and habits of vegetables. The third group, however, consisted of older boys ranging in age from sixteen to twenty. These boys were given a course of lectures (two periods a week) beginning in February and continuing until April. The first of April these boys were taken out to the institution farm where they were placed under an experienced and practical farmer and where they were expected to work out some of the theories they had learned in the classroom, and where the actual digging in the ground took the place of theory.

From the first of April to the end of August these students were found in the garden daily from eight until twelve, the balance of their time being taken up by small jobs which they were able to secure to earn pin money and also with other educational endeavors. Of the group of six boys, three had sight enough to be of help to them in gardening operations, while three were totally blind. It was interesting to note the outcome of the course in which one of the totally blind boys was able to earn the medal for the best kept garden, showing that the lack of sight has very little to do with the ability to garden.

In this gardening project each boy was given a plot of ground, fifty by one hundred and twenty-five feet, and on this plot a wide variety of vegetables was grown; and in addition to this, every boy was expected to do a certain amount of work on the larger institutional garden. Notebooks were kept by each boy telling what he was doing each day and a record of vegetable products. At the end of the course, as indicated, the gardens were judged for the best results. In addition to the prize awarded to the totally blind boy, another medal was awarded to a partially seeing boy who had a very excellent garden. This latter boy had not done exceptionally well in regular high school studies, but he appeared to have a very special ability and interest in gardening. This was interesting to note, as it showed the vocational possibilities of gardening.

The one thing that should be noted in regard to such a course in gardening as we have just described is the fact that no very definite result can be judged; that is, no form of examination can be conducted, nor is there any fair method of judging as to how much the pupil can get out of the course. This depends entirely upon what the pupil does with the information later on. This, of course, is true with any subject but more especially with gardening. Throughout the course the work was greatly handicapped by the lack of any kind of suitable text book, and all of the instruction

was necessarily oral, which made teaching very slow and difficult. Not more than half of the ground was covered that the instructor had hoped to touch upon. This, however, is a condition that could be remedied.

One of the prime considerations in this gardening experiment was to discover if possible in what way gardening for the blind would differ from gardening for the seeing, and we were very glad to note that there is but little difference in teaching requirements. For those boys who were totally blind, a guide rope was placed about the garden so that they could easily tell where they were. For this purpose simple wood posts were driven at the four corners and a light rope stretched on them about three feet from the ground. In the case of a boy working on any special row a line could be run across the rows between the principal ropes to act as a guide to the row, but this was rarely found necessary. In planting the rows a board or string could be used as a guide, but this is also done by any seeing gardener, so that there was but small differentiation in the methods of planting.

One of the most helpful things which we discovered was the value of planting radish seeds along with slower germinating seeds such as carrots and beets. By adding just a little radish seed to these other seeds, the pupil was enabled to discover the rows two or three days after they were planted, as the radishes germinate so much more quickly than the other vegetables. Thus, with a guide to the row in the shape of little radish plants, weeding could be done rapidly without danger of pulling up or disturbing the seeds of the slower growing vegetables. This was a very important matter.

As to tools to be used, we discovered that a short-handled, three-toothed cultivator was the most useful tool. Obviously a short-handled tool has to be used by kneeling in the row, but in the case of the totally blind pupils it is very necessary that they do get close to the work. Other than this special tool the standard gardening tools were used.

In conclusion it may be said that there are decidedly some cases where it is hard for the totally blind gardener to achieve the best results, but from our observation of the course there is no reason why a great deal more work of this nature could not be done than is being done at present, and we at Perkins hope to continue this work in future years.

(*Continued from Page* 47)

In each of these series the isle of Wisconsin and the driftless area of the southeastern part of the state are pronounced, showing parts having widely different conditions as to scenery, soil, occupations, and natural resources. The understanding which this group gives colors the whole of the succeeding study of our state. We used plasticine for indicating limestone, clay for shale formations, sand on shellac for the sandstone, and rock salt, known as "ice cream salt," scattered on the shellacked surface for the crystalline rocks.

(*Continued from Page* 49)

eighth grade enjoys this game as much as the fourth.

There are practice tests in the market now which are used extensively in the public schools. If they could be adapted to our special needs and transcribed into braille, our written work would be greatly improved, especially with regard to speed and accuracy. That day is close at hand, I am sure, when such up-to-date material will be in every classroom for blind students.

"Expression of the Emotions in the Blind-Deaf Child" by Florence L. Goodenough, in the *Journal of Abnormal and Social Psychology* for October-December 1932, gives a description of a series of observations of a ten-year-old girl who had been completely deaf and blind from birth. Up to the time of observation, she had had no formal and very little informal training.

THE BEETZ NOTATION-GRAPH

The attention of readers of the *Teachers Forum* is called to the Notation-Graph, recently invented by Charles J. Beetz, Director of the Beetz School of Music of Brooklyn, New York.

The Notation-Graph is a model of the Grand Staff, mounted on a cork base to which the various musical symbols may be attached with ease. Its purpose is to familiarize blind people with the system of musical notation used by the seeing, and to enable the blind teacher of music to teach the reading of music to his seeing pupils.

The Staff consists of ten lines—the Treble and Bass Clefs, and a Brace—all of which may be removed when necessary, but which should be considered permanent. The Staff, as well as the musical characters, are made of wire. Each of the following characters is provided with two pins, and may be fastened to and removed from the base at the will of the operator:

Whole note; half note with short stem, half note with medium stem, half note with long stem; quarter note with short stem, quarter note with medium stem, quarter note with long stem; eighth note with upward-turned stem, eighth note with downward-turned stem; sixteenth note with upward-turned stem, sixteenth note with downward-turned stem; quarter head and half head, used in forming chords; coupling line, used to join two notes for the purpose of converting them into eighth or sixteenth notes; whole or half rest, quarter rest, eighth rest, sixteenth rest; sharp, flat, natural, and double sharp; No.'s 2, 3, 4, 6, and 8, used for time signatures, the four quarter (common time) sign; ledger line, sign for "pause," consisting of a curve and a dot—separate parts; the dot (used for dotted notes, staccato sign, and double bar repeat), the bar, couplet, slur or tie, long slur, crescendo or diminuendo, accent sign, grace note, mordent, turn, arpeggio sign; a square measure, used to guide the operator in setting the characters, and a gage, used to measure the distance in placing the ledger lines.

The advantages of the Notation-Graph, as given by the inventor, are as follows:

1. It enables the teacher of the blind to thoroughly acquaint his pupils with the music notation system used by the seeing.
2. It gives blind persons the opportunity and joyful experience of writing music in the language of the seeing musician.
3. It is the means of training the mind of the blind teacher to visualize everything his seeing pupil reads. Thus it effects a closer union between teacher and pupil.
4. It makes it possible for the blind teacher to express for his seeing pupil in tangible form all or part of the lesson, and to actually point out any note, chord, or phrase he wishes the pupil to play.
5. It supplies the blind teacher with facilities equal to those used by the seeing in teaching the staff.
6. It enables the blind teacher to teach the staff to groups, or classes of seeing pupils, and therefore, should make it possible for them to fill positions in the public schools as music teachers. It should be of considerable advantage to those who train choirs.
7. It gives the blind teacher the opportunity to have his seeing pupil write in tangible form, notes, chords, and musical figures which the teacher plays on the instrument, and thus opens channels for ear training and staff notation, heretofore impossible to the sightless teacher.
8. It immediately convinces those who have any doubt, as to the ability of blind people to teach the reading of music.

Arrangements have been made by which the Notation-Graph will be placed on the market through the American Printing House for the Blind, Louisville, Kentucky, provided there are sufficient orders received to justify its manufacture.

THE BRAILLE HIGH SCHOOL PUPIL

KATHERN F. GRUBER

In relation to their entire number who are gainfully employed, the blind are occupied more extensively in trade and in professional service than is the general population. In professional service the proportion is over three times as great, and in trade it is nearly twice as great. With this encouraging data before us, we are inspired to make the high school life of the braille student give, to its fullest extent, those essential qualities of social adjustment which aid economic success.

Since the home is the center of the affections and interests of the child, it is relevant that the school cooperate very closely with that unit in developing the pupil's social, economic, and moral attitude toward life. A day-school pupil has the advantage of direct parental contact with the school. Both the pupil and the parent understand that equal standards in education must be met or even surpassed.

A high school in which a braille or a sight saving class has been established always has an enlightened faculty which has received its primary rules from the supervisor of braille work. Consequently, contact with individual teachers is made on an intelligent basis, and since the teachers understand that our problem is to absorb the braille pupil in the rank and file of the student body, they are exceptionally favorably inclined in placing such students on a level with the others with no particular deviation from the even tenor of their methods. To clarify the situation, may we be permitted to take an individual braille student, Tom, who is entering high school and explain our method of orientation and work?

As the braille teacher of Tom who is coming to high school, I have had information about him before he arrives. I have become familiar with the reports of his oculist and of his physician, with his social history, his mental tests, and with the report of his grade school teachers, all of which data is indigenous to our well-ordered braille department. With this supplemental knowledge, I feel capable of making a comprehensive contact with Tom when he arrives.

My first problem is the adjustment of his program. We work together on that. We choose the Academic Course because the Commercial Course and the Industrial Course are generally eliminated as unsuitable. Contrary to general routine, we do not make out a full four-year program, except for the required subjects. This gives Tom a chance to exercise his awakening personal judgment in his elective work later on. Unless his physician places him as a definite cardiac case, or otherwise medically exempt, we place Tom in a corrective gymnasium class for two full years, twice a week. We sacrifice almost anything else to place him correctly as far as physical education is concerned because the opportunities offered by a thoroughly equipped "gym" and competent corrective instruction are most valuable to anyone.

If Tom shows a definite desire to take music, we incorporate this subject in his program, sometimes as a fourth credit subject, then again as a fifth credit, depending upon the ability of Tom to carry a heavy program. We are more than pleased if Tom wishes to join the general glee club, choir, orchestra, or band. If he wishes to take any manual training, he may enroll in the Saturday morning classes which meet in a fully equipped shop with a regular day-school teacher in charge. A dictaphone course is available to Tom if he desires to take it as prevocational training, or simply as an aid to develop speed in typing or efficiency in spelling. The entire curriculum of a regular high school is open to Tom. He makes his own choice in the languages,

the social sciences, the natural sciences, and the vocational subjects.

At the outset, Tom knows that he is on his own initiative as far as responsibility for getting assignments and fulfilling them is concerned. He clearly understands that all the equipment of his home room is at his disposal in completing his work. Suffice it to say that as far as classroom procedure is concerned, Tom participates on the same basis as any other student, never leaving the recitation room unless everyone else is studying.

But this gives only the academic slant which by no means makes a well-rounded social being of Tom. Our type of education does not mean simply teaching Tom what he does not know; it means teaching Tom to behave as he does not behave. We work doubly hard with our braille pupils to effect such an end. We take it as a matter of course that Tom comes to school alone and goes about the building by himself. We encourage him to become an active member of those clubs in which he is interested. We invite him to participate in our auditorium programs. We hail his purchase of a seasonal athletic ticket. We give him one full reading hour a day in which he listens to the very best literature we can find on the accredited reading lists. We frankly discuss his social difficulties with him and help him shed his "hair shirt" of uncomfortable behaviour.

We begin early in getting a vocational expression from Tom. After a whole year in a class of community life and civic problems, he begins to think, act, and feel as the hundreds of others about him concerning his life after school. We keep his vocational interest constantly in the foreground by conferences with teachers, our supervisor, and our special counselor on vocational guidance. And because Tom has had a normal high school life, he is more eager to begin a suitable vocation. If his fortune is such that he is to continue in a higher school of learning, he has had the kind of background which will aid the transition period.

To recur to the beginning of this article, we are confronted with the interesting fact that on an honest comparative basis, our blind people are occupied more extensively in professions and trade than is the general population. Could there be any better challenge to us to force us to apply the efficiency principle to our teaching of the braille high school student?

A Progress Book for maintaining student records, as used by the Birmingham Royal Institute for the Blind, located at Birmingham, England, has recently come to our attention. This Progress Book is so arranged that detailed information regarding the student may be kept as a unit from the time the child enters the institution until he closes his career as a pupil. Space is allowed for general information regarding the student, including such items as causes of blindness as certified by the institution's ophthalmologist, his position in school on admission, with an estimate of attainments on admission, his mental condition and physical status. The book is so organized that semi-annual reports concerning the student may be entered by the following individuals: Head teacher, Medical officer, Ophthalmic surgeon, Dentist, and Matron.

When a pupil leaves the school, the book should furnish an efficient report and history of his progress in school.

A group of boys in the Florida School for the Blind have revived some of the "hill-billy" music as an extra-curricular activity. Violin, banjo, and harmonica are the instruments used. The spontaneity and enthusiasm of the players make their performance most effective, and they are very popular with Lions Clubs audiences. While the hill-billy music violates many of the rules and precepts of technical instruction it is authentic folk-music and as such has a cultural value which merits recognition.

THE TEACHERS FORUM
for
Instructors of Blind Children

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The Editor will not be responsible for opinions expressed in signed articles.

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GENERAL SCIENCE

The Report of the General Science Committee, which was sponsored by the American Association of Instructors of the Blind and the American Foundation for the Blind, has been published and placed in the hands of teachers of general science in schools for the blind. The Report is in the form of a pamphlet called "General Science—A One-year Course of Study for Use in Schools for the Blind." It deserves the serious consideraion of all schools which have, or contemplate introducing, a course in general science into their curricula.

The general aim of the course of study is given as follows:—"The fundamental purposes of general science in schools for the blind are: To acquaint the child with his environment; to foster his confidence in the material world about him; to afford him the best possible interpretation of his surroundings; to so organize the common experiences as to make them directly and purposely useful."

The course of study is organized on the basis of one year's school work, to be given preferably in the ninth grade. Sixteen units of work are included. Each unit consists of an outline of the content, followed by a list of demonstrations and pupil activities designed to meet the special needs of blind students. A suggested time allowance for each unit is also given. The remainder of the pamphlet consists of a list of tests, an extensive bibliography for teachers, a reading list of books on general science available in braille for students, and a list of equipment needed for the demonstrations given in the pamphlet.

The course of study was completed after more than two years of experimentation under actual classroom conditions by members of the Committee and other teachers of general science in schools for the blind. It is designed as an aid to the classroom teacher, and is sufficiently flexible to lend itself to adjustment and change in order to meet local conditions and interests.

Members of the Committee are as follows:—Chester A. Gibson, Perkins Institution and Massachusetts School for the Blind, Chairman; Mrs. M. Genevieve Coville, Principal, Virginia School for the Blind; Dale W. Hamilton, Illinois School for the Blind; and J. H. Botts, Missouri School for the Blind. The Advisory Members are:—Dr. Otis W. Caldwell, Director, Institute of School Experimentation, Columbia University; Miss Kathryn E. Maxfield, Director of Personnel and Research, Perkins Institution and Massachusetts School for the Blind (formerly Editor of the *Teachers Forum*); and Eber L. Palmer, Assistant Director, American Foundation for the Blind.

The pamphlet is printed on one side of the page in order to allow space for the teacher's own comments and such special laboratory demonstrations as she may care to insert. This will assist her in adapting the course to the children's own environment.

In a recent letter sent us by Mr. Edward M. Van Cleve, Principal, New York Institute for the Education of the Blind, received by him from Dr. Avery W. Skinner, Director of the Examinations and Inspections Division of the University of the State of New York, appear the following paragraphs in regard to this course of study:

"Thank you for sending me the General Science Syllabus which you are

proposing for use in the schools for the blind. Our Mr. Knox, State Supervisor of Science, says with respect to it:

" 'I have examined in some detail the General Science Syllabus to be used in schools for the blind. On the whole, I consider this an excellent outline of the work. It contains a wide variety of scientific topics with which every intelligent citizen should be familiar. Indeed, in many respects, this syllabus is superior to the average ninth grade syllabus planned for children of normal vision.' "

It is hoped that this pamphlet will prove of value to the schools which already include the study of general science in their curricula, as well as act as a stimulus to schools considering the introduction of this subject. There is no doubt that the study of general science offers many opportunities to alert teachers in their efforts to interpret to blind students the environment in which they live.

BOOKS IN BRAILLE

One hundred and forty-two new braille books have been made available to blind readers during the fiscal year 1932-1933, under the provisions of the Pratt-Smoot Law, through the Library of Congress, according to a report recently received from Dr. H. H. B. Meyer, Director, Project, Books for the Blind, Library of Congress, Washington, D. C.

Included in the list are forty-nine fiction and ninety-three non-fiction titles. The non-fiction books include such subjects as: philosophy, psychology, religion and ethics, Hebrew, description and travel, biography, history, economics, sociology and political science, law, music, fine arts, language, literature and poetry, science, agriculture, and technology.

Moon titles of 1931-1932 and 1932-1933 and braille titles of 1931-1932 are included in other printed lists, which may be secured from the distributing libraries nearest to the readers.

The American Foundation for the Blind carries a full line of appliances and games manufactured by the National Institute for the Blind, London, England. Price list may be secured by writing to the Foundation offices at 125 East 46th Street, New York City.

Our Contributors

Miss Etta Michaels was for years on the faculty of the State Teachers College at Milwaukee, Wisconsin. After losing her sight she was associated with the Geography Department of the Wisconsin State School for the Blind during the school years 1931-1932 and 1932-1933, where she developed some very unusual geography map projects.

Miss Constance Morey, a teacher in the Pennsylvania Institution for the Instruction of the Blind at Overbrook for several years, has had a special interest in the practical use of games in her class work.

Mrs. Myra Manning Koenig has been associated with the Iowa School for the Blind as head of the English Department since 1919. The use of projects is a vital part of her classroom procedure.

Mr. Nelson Coon is Superintendent of Buildings and Grounds at Perkins Institution and Massachusetts School for the Blind. His article on gardening should give some helpful suggestions to those teachers considering the introduction of such a course. Mr. Coon is the author of several horticultural books.

Miss Kathern F. Gruber is the teacher of braille high school students in the Minneapolis Public Schools. She will be remembered by *The Forum* readers as a former contributor.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. VI MARCH, 1934 No. 4

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THE PRE-SCHOOL BLIND CHILD: A PRELIMINARY STUDY

KATHRYN E. MAXFIELD

In the year 1845 there appeared in Vienna the first published information for the guidance of parents of blind babies.[1] Since that time similar counsel has been printed occasionally in Europe and America.[2] In whatever language these directions to parents have been couched, the tenor of them all is much the same—the blind baby must be given not only the opportunity, but the necessary encouragement to develop as nearly as possible according to the norms which his seeing brother is supposed to attain. Some of the writers have suggested substitute stimuli to take the place of the visual ones which are lacking; others have emphasized especially the physical health of the child, and many have stressed the importance of preventing the child from developing peculiar mannerisms. Only recently, however, has written expression been given to a realization of the necessity for careful study of the blind child during his most formative years.

Since two books have appeared during the last year which deal extensively and authoritatively with the development of interest in the pre-school blind child and with the general character of the problems calling for study, no attempt at historical introduction will be made in this report. Thought-provoking chapters will be found in *The Education of Visually Handicapped Children,* by Dr. Ralph Vickers Merry,[3] and in *The Blind in School and Society,* by Dr. T. D. Cutsforth.[4]

From the point of view of practical assistance to the parents of blind infants, probably the most valuable publication to date is the article in the *Outlook for the Blind,* April 1933, by Miss Harriet E. Totman on "What Shall We Do with Our Blind Babies?" [5]

For more than a quarter of a century nurseries for the blind have played an important part in drawing the attention of the

1. Klein, Johan: Anleitung blinden Kindern: die nöthige Bildung in dem Schulen ihres Wohnortes, und in dem Kreise ihrer Familien zu verschassen. Wien, 1845, pp. 62.

2. Allen, Edward E.: To the Parents of Blind Children. *The Mentor,* 1894, pp. 135-140. (Translation by Edward E. Allen, from an article by W. Mecker, Director of the Institution for the Blind in Düren in conjunction with Dr. H. Saemisch, Consulting Physician and Professor of Ophthalmology in the University of Bonn, in the Report for 1893 of the Private Institution for the Blind, Linz, in Upper Austria.

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Palmer, F. E.: Supt. Iowa School for the Blind: Helps and Suggestions for Parents of Blind Children, 1930.

Thomson, John, M. D.; Opening Doors (pamphlet). Oliver and Boyd, Edinburgh.

3. Merry, Ralph Vickers: *The Education of Visually Handicapped Children.* Harvard University Press, Cambridge, 1933.

4. Cutsforth, T. D.: *The Blind in School and Society.* D. Appleton and Co., New York, 1933.

5. Reprints may be obtained from the American Foundation for the Blind at 15c apiece.

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Report of the Sub-committee on the Visually Handicapped in *The Handicapped Child,* White House Conference on Child Health and Protection. Century Company, New York, 1933.

public to the welfare of these babies. Most of them, however, were established at a time when it was supposed that babies would thrive best, mentally, if left alone. Although the nurseries for the blind apparently had a better appreciation than the general public of the intimate connection between acquisition of the fundamental physical habits of eating, sleeping, walking, and elimination on the one hand, and the awakening of mental life on the other, they nevertheless seemed to have been influenced enough by the general point of view to consider their duty done when blind babies had acquired the proper physical habits.

Since the pre-school movement for seeing children had not developed at that time, it is no wonder that nurseries for the blind did not appreciate the need for a scientifically careful study of methods for awakening the dormant mental functions of the children under their care. Recently, however, the nurseries have come to realize the importance of such training and now they want their work to be on a par with the best that is to be found in organizations for the training of pre-school children with sight. They have the *will,* but as yet they are nonplussed over the *way* of putting that will into effect. In each nursery there are so many children for whom blindness itself is actually a minor handicap, in comparison with their other physical and mental disabilities, that a scientific study is difficult to plan and execute.

With blind babies in their own homes the situation appears to be very similar to that in the nursery, judging by the urgent appeals for information and guidance constantly coming to the American Foundation for the Blind from educators and from intelligent parents. Thus, from nurseries for the blind, from the parents of blind babies, and from state and city workers with the blind of pre-school age, came evidence to the staff of the American Foundation for the Blind that however difficult might be the way, the time had come when exploratory steps should be taken toward the careful study of the problems which must be met in the training of pre-school blind children.

In 1931 the Foundation considered ways and means for beginning such a study. Their initial aim was to gather whatever information would be necessary for the preparation of literature and pictorial material for the guidance of the different groups of people concerned with the welfare of the pre-school visually handicapped child—ophthalmologists and general medical practitioners, public health nurses and other social workers, home-teachers and nursery-workers for blind babies, and parents of different degrees of intelligence and education. The date of publication for this literature, however, has been indefinitely postponed because of the baffling manner in which the gate to the proper field of knowledge eludes discovery. Much that seems clear from a distance becomes lost in a fog upon closer approach.

A preliminary survey was made, therefore, for the purpose of disclosing productive avenues of approach to the problems of the pre-school blind child. Only the conclusions of that preliminary study are given here, but the full report may be obtained from the American Foundation for the Blind. The questionnaire by means of which the data was obtained was devised by the writer with the valuable criticisms of Miss Ruth B. McCoy, Director of the Department for the Prevention of Blindness, New York State Commission for the Blind; of Miss Helen J. Coffin, Director of Braille and Sight Saving Classes in Cleveland, Ohio, and of Miss Harriet E. Totman, a member of Miss Coffin's department.

In the collection of the data, we were fortunate in having the cooperation of the following organizations:

Arthur Sunshine Home and Kindergarten for Blind Babies, Summit, New Jersey
Boston Nursery for Blind Babies
Brooklyn Home for Blind, Crippled, and Defective Children

Cleveland Board of Education: Braille and Sight Saving Classes
Cleveland Society for the Blind
Connecticut Institute for the Blind: Nursery for the Blind, Farmington
Dyker Heights Home for Blind Children, Brooklyn
Emma Pendleton Bradley Home, Providence
New York State Commission for the Blind

In addition to these organizations, parents and welfare workers in different sections of the country gave their assistance.

In a preliminary study such as this, obviously the sources of error were numerous. In many instances it was impossible to check the degree of vision or mentality of the children reported. Probably the most reliable records on these points are those obtained from the Arthur Sunshine Home for Blind Babies and the Connecticut Nursery for Blind Babies where most of the questionnaires were filled in by the writer or by a trained assistant; and from the Braille and Sight Saving Class Department of the Cleveland Public Schools where all of the questionnaires were filled in by one person and where tentative mental ratings had been given to each blind baby.

So many children with severe visual handicaps are still in need of that type of training which is usually thought of as "pre-school" in character even when they have reached the seventh birthday, that we included in our study any six-year-old children who were reported to us, even though it is customary to consider the pre-school age as finished by the time a child is six. In future studies it is suggested that kindergarten and first grade pupils in schools and classes for the blind be similarly included, for the sake of comparison.

In all, we obtained records for 110 pre-school children. Of this number we found that 29 were quite definitely so low in mentality that a study of their development would throw very little light on the problem of training educable pre-school blind children. Also, we found that 19 of these 110 children apparently had sufficient vision to warrant their attending sight saving classes when they reached school age. This left 62 children who might be considered truly blind and possessed of a useful degree of mentality. For the more general parts of the study the records of all 110 children were counted, but for the more detailed study, only the 62 truly blind and truly educable children were counted.

Because of the limited number of children who were available, this survey was not expected to give definite information regarding methods of training blind babies. It did, however, fulfill its original purpose of uncovering paths which called for further exploration. As time goes on, if these studies can be resumed, we should be able to build up a body of knowledge which would mean much for the future welfare of pre-school children who are suffering from serious visual handicaps.

Conclusions

1. A developmental history sheet should be adapted for use with blind pre-school children which would record for later study the progress of totally or educationally blind babies. These records should be watched during a period of two or three years, and notes should be made of unusual behavior which might have resulted in changes in methods of training.

2. An analytical study should be made of play materials which appear to be especially suited for contributing to the physical and mental growth of blind babies. Some of the most constructive materials on the market become interesting to small children because of their appeal to the eye. Not only should adequate substitutes be found for this visual appeal, but studies should be made regarding the proper ages at which these substitute appeals should be made to visually handicapped children.

3. In cooperation with kindergarten teachers in schools and nurseries for the

blind, a study should be made of the difference between visually handicapped kindergarten children and those in kindergartens for the seeing. When we once have a reasonably complete record of such points of difference as are peculiar to the majority of visually handicapped children, regardless of degree of sight, and of those characteristic only of the totally blind; when we know more definitely how nursery-trained kindergarten children differ from those who have been trained at home; then we shall know better toward what end our training of the pre-school visually handicapped child should be directed.

4. Methods of teaching blind children to walk should be studied as soon as possible, since retardation in walking probably delays the development of other habits in the visually handicapped child, and needlessly postpones the awakening of a normal interest in the environment.

5. During the course of these studies intelligence tests for pre-school children should be adapted as well as possible for use with visually handicapped babies. A standardized test which would be as statistically reliable as is the Binet test is probably an impossibility. Nevertheless, any criterion giving some measure of degree and type of mental development in these children through their first years of life would be a great help.

Through the interest of Dr. B. F. Holland, Department of Educational Psychology, University of Texas, the American Council Alpha Spanish Test has been transcribed into braille. This test has been printed by the American Printing House for the Blind, Louisville, Kentucky, and sample copies may be obtained from that organization or from the Texas School for the Blind. This Test was transcribed into braille to be used in a comparative study of blind pupils with seeing children in the achievement of a foreign language. The test has already been given to all of the pupils taking Spanish in the Texas School for the Blind.

THE FOUNDATION LIBRARY

The English magazine, *The Teacher of the Deaf* for December 1933, is mainly devoted to Helen Keller. There is a description of a luncheon given in her honor at the Royal Institution for the Deaf in Derby, England. On this occasion Miss Keller announced her acceptance of the office of Vice-President of the College of Teachers of the Deaf.

In *Human Biology* for May 1933, there is an article "Theories of Synesthesia in the Light of a Case of Color-Hearing" by Otto Ortmann. In his discussion on synesthesia and the literature published about this subject, the author also deals with synesthesia as met with in blind persons and gives many references to writings in this particular field.

Margaret Prescott Montague who will be remembered for her *Closed Doors*—a book of stories of children in a school for the deaf and blind, now tells about her own victorious fight against the double handicap of blindness and deafness in *The Lucky Lady,* published by the Houghton Mifflin Company, Boston, Mass.

Insecurity, A Challenge to America by Abraham Epstein, published by Harrison Smith and Robert Haas, New York, has a chapter devoted to "Invalidity and Blind Pensions." The author says, "Of all the various forms of non-industrial disability, only blindness, because of its dramatic appeal, has received legislative attention in the United States."

As Pamphlet No. 42, the United States Office of Education has issued "Organization for Exceptional Children with the State Departments of Education," by Elise H. Martens, Senior Specialist in the education of exceptional children. There are at present thirteen states in each of which a division or bureau has been reported as established in the State Department of Education, which has as its responsibility the administration and supervision of special education within the State.

A STUDY TO DETERMINE THE INCIDENCE OF TOTAL BLINDNESS IN BRAILLE CLASS PUPILS

CLEVELAND PUBLIC SCHOOLS - 1909-1933

HELEN J. COFFIN

The studies which have been made annually on the causes of blindness in school children have shown a very significant decrease in blindness from ophthalmia neonatorum. The medical authorities admit that science is accomplishing far more satisfactory results in the treatment of ocular defects, and as a result of better techniques some remnant of sight is restored to persons who formerly would have been left for life with no ray of light, or hope of improvement. What is the percentage of school children who are affected by this treatment? Are the children with some vision, but with too little to be educated by visual methods, increasing in the schools and classes for the blind; and if so, what significance should be attached to this in planning the curriculum for these classes?

To the average person, and even to some of those who work with the visually handicapped groups, a person is unqualifiedly blind who cannot see, or who cannot be educated or work as a seeing person, even if he has some sight. This lack of differentiation has placed an added handicap upon both the totally and the partially blind, and has led to misunderstandings in the administering of pensions, in blind relief agencies, and even in schools. One of the most progressive steps in recent work for the blind has been the greater uniformity in the use of definitions and terms referring to blindness and the more adequate treatment of individual cases.

For several years it has seemed apparent that the student personnel in the Cleveland braille classes was changing, and that the new problems were due not to blindness, but to sight. No analysis had been made to substantiate the belief that a permanent change was gradually taking place, until the current year, when a study was made to determine the eye conditions of all of the pupils admitted to the Cleveland braille classes and to note the general trend as predictable from the records of all such pupils.

The total number of pupils admitted to the braille classes from the date of their opening in 1909, to and including the known new admissions to be received in September 1933, is 131. Since the number of admissions for any one year is comparatively small, the twenty-five school years have been grouped in five-year periods. Without exception, all cases have been known to the person compiling the figures, or a reviewer. The classification has been made on the basis of the written report of the ophthalmologist and upon the knowledge of the compiler.

In presenting the following results it is hoped that enough interest will be aroused to stimulate additional investigations. The findings, while exceedingly significant for the local situation, may not have like significance for the country at large. However, they should be provocative of some attention and thought concerning the value of methods and equipment in a continuously progressive educational scheme for braille readers.

The data indicate that:

1. All so-called blind pupils are not totally blind.
2. Children who are totally blind are decreasing in number, this decrease being rapid in the last five years.
3. An increasing percentage of pupils have better than gross object perception, this increase being rapid in the last five years.

ADMISSIONS TO BRAILLE CLASSES IN THE CLEVELAND PUBLIC SCHOOLS—1909-1933

Year	Percent A	Percent B	Percent C	Total No. of new admissions
1909-1913	65	5	30[1]	20
1914-1918	55+	26	18+	27
1919-1923	39+	44+	16+	43
1924-1928	44	40	16	25
1929-1933	31	25	44	16

A. Totally blind or not more than light perception
B. Gross object perception facilitating movement
C. Better than gross object perception but not enough sight to make use of 24-point type for educational purposes

These facts suggest:

1. The need of recognizing the individual differences in eye conditions of the pupils who are classified as blind, and of limiting the use of the term "blind" to those who are totally without sight.
2. The need of knowledge of eye conditions on the part of all teachers of blind children in order that no harm may be done to the eyesight through any classroom methods of teaching, or conditions of light.
3. The need of adapting teaching methods to individual needs arising from eye conditions, and of using material adapted to the sight of those pupils who have it.
4. The need of preventing waste of time by not teaching tactually those things which may be learned visually without harm to the eyes.
5. The need of acquiring accurate knowledge whether through the sense of touch, sight, or both.
6. The need of adequate provision for the training of the totally blind child, including social and physical training.
7. The need of more contacts with seeing pupils for both totally and partially blind children.
8. The need of a careful analysis of the special subjects, especially handwork, now required of braille class children to determine the value of these subjects for children with different degrees of blindness.

[1] Before 1913, there were a few pupils in the classes for the blind who could make sufficient use of large print to be educated by sight. Their presence in these classes which were not adapted to their needs caused Robert B. Irwin, then supervisor, to recommend the organization of sight saving classes. Since 1913, no pupils have been educated in braille classes who can read 24-point type sufficiently well to receive an education without recourse to tactile reading.

The Beetz Notation-Graph which was described in the January issue of *The Teachers Forum* is now being manufactured by the American Printing House for the Blind. Schools and individual teachers are urged to investigate this new device for the use of blind music teachers in teaching seeing children.

The February 1934 issue of *Popular Science* contains a brief note, together with a photograph, of the method employed by Dr. Arthur H. Bryan, science instructor, in the Baltimore City College, Maryland, in making microscopic marvels clear to blind students in his classes. The models are made by seeing students and are used by blind students of a class while the others are using miscroscopes.

DOCTOR ALLEN SAYS:

"IL FAUT CULTIVER NOTRE JARDIN." (VOLTAIRE)

At my London school there was a totally blind boy who knew all the common birds by their notes; at South Boston, one who became a nature writer. Nature sweetened the whole life of the first. For the second it furnished also the career.

Why do so few blind people cultivate the nature hobby? Our Watertown plant being an environment of gardens and my main energies freed at last from building and reorganizing, I proposed to see if I might not awaken a general curiosity to get into communion with living things. Everybody was urged to have a garden. We framed in small plots for pupils but provided no teacher. Failure. When later she arrived the whole estate became her laboratory. Occasionally she would say:—"Now girls, I have hung a braille label on six different shrubs back of your cottages. Find and characterize them for me." Her enthusiastic pupils would even hunt before breakfast. She gave each class member a cecropia cocoon to keep and watch. Many played with spring polliwogs in the pond. Some even handled pet snakes. A May cottager donned a bee veil and showed visitors how to put a modern hive together. Every family had its canary bird. A Fisherite hatched and raised one, "Lindy," and made it the subject of a pretty story. The house mothers brightened their living-rooms with forced-out forsythia. Teachers brought their pet flowering plants to morning prayers. A graduating pupil wrote in her essay that when I announced the arrival of my day-old chicks, spring had come to Perkins. But nobody could find the tulip-tree I had planted and described.

In time my daily chapel talks came more and more to touch on nature and her everyday miracles. I read aloud relevant poetry. Indeed, there was so much to tell about what was growing and doing right there at home that the pupils began to realize what Stevenson meant by writing:—

"The world is so full of a number of things,
I'm sure we should all be as happy as kings."

Our kindergartners had always conducted nature walks. Now some upper school teachers did the same, a few fostering individual gardening. A teacher of primary boys helped them raise a puppy, two squirrels, and many rabbits. Another supervised the keeping of hens, pigs, sheep, and a calf. The boys in couples could scarcely wait for their turn to care for these pets. What fun it was to gather the eggs; what a revelation that a pig could put on more pounds in two months than any of the boys had in twelve years! One spring two lambs were born. Later there was a sheep-shearing, the boys standing by and asking questions. Once they dug two great pits and every fall since have filled them with leaves for compost. They now help the men gather, prepare, and store the many bushels of root-crops and so learn the full meaning of harvesting. All this is education for the joy of it.

I have known people who have had such intimate childhood contacts with nature that they looked back upon these soul-stirring influences as more meaningful, as even more consequential, than their regular school tasks. I do.

Voltaire, in his novel, makes Candide find back in his own garden the satisfactions for which he had vainly searched the world.

WHAT IS ABSENT-MINDEDNESS?

SAMUEL P. HAYES

(Editor's Note. The following article is a simple psychological analysis of a common mental trait, together with certain suggestions concerning the dangers involved in making the trait habitual. Teachers may be interested to read the article to their students as a basis for informal discussion on social adjustments. It is one of a series of talks given by the author at Perkins Institution and Overbrook.)

Did you ever excuse yourself for some mistake by saying, "I guess I must have been absent-minded"? Don't get the habit. It's dangerous.

Everyone has a pet story to illustrate this trait, and many of these stories are quite amusing. A Greek philosopher, meditating upon the laws of the universe with his gaze directed to the starry heavens, fell into a well and was nearly drowned; a modern scientist wishing to boil an egg exactly three minutes carefully held the egg in his hand and put his watch into the boiling water; lovers deep in sweet converse have been found standing out in a storm oblivious to their surroundings till snow reaches their knees; a business man takes his baby downtown in a baby-carriage, leaves it in front of a store while making a purchase, remembers something needing attention at the office and deserts the baby, until called to account by his wife who was expecting him home.

In all such cases, and others that the reader may call to mind, two psychological factors may usually be discerned: (1) a state of concentrated attention and (2) some sort of wish which is at variance with the activity expected by society. By concentrated attention we do not mean some mysterious power or faculty which some people have and others do not, but merely a high degree of attention to some things to the exclusion of all others. So many stimuli are constantly bombarding us through our different sense organs that we cannot attend to them all; we must select some and neglect the rest. When listening to a lecture we must disregard the noises from the street, the hissing or crackling of steam pipes, glaring lights and faint drafts of air; if we attend to any of these we may lose the gist of the lecture or some essential point. When talking with a group of friends our remarks will be very jerky and perhaps even incoherent if our attention is caught by every passing vehicle in our field of vision or by ideas and associations from our own past which are not relevant to the topic in hand. "One thing at a time" is a fine slogan for mental efficiency. And this involves concentration.

The trouble with the absent-minded person is that his concentration is likely to be purely selfish. With his interest centered in some wish or hope, worry or fear, he becomes quite oblivious to the world outside and his obligations to it. Another example will make this point quite plain. Habit has such a hold upon us that many activities which we repeat day after day become practically automatic, and when they are once started they go on of themselves without any need for direction on our part. Many a man, for instance, has so regularly wound up his watch when taking off his vest for the night, that *whenever* he takes off his vest he is likely also to wind his watch, regardless of the time of day. Recently a man went upstairs to dress for a reception to which his wife had been looking forward with great pleasure. As he did not appear after a reasonable length of time, and the guests were beginning to arrive, she went up to see what was delaying him, and found

him fast asleep in bed! The process of undressing had been followed by the customary process of getting into bed and going to sleep. He was absent-minded so far as the reception was concerned. But what was he thinking of? Certainly not of his wife's reception! Probably he was not looking forward to it as a great treat; perhaps he hated receptions and regarded them as great bores. If he had wished to take his part in the social function and had continued to think of it, he would have thought of the proper clothes to put on when he was ready for them, instead of putting on his sleeping garments.

Like many other habits, absent-mindedness tends to grow on one. If our first *faux pas* is not serious, our friends are likely to make a joke of it and laugh it off. Presently we use the trick again, possibly to escape something we do not wish to do. In any easy-going group we may be excused again and again, but ultimately our friends will lose patience, or think us hopelessly queer, and then they will begin to leave us out of their plans for good times. To be an acceptable member of a social group one must do one's part.

Absent-mindedness is pretty sure to be a social boomerang; it ultimately hurts most the selfish person who uses it as a weapon. And at the same time it encourages another dangerous habit, the tendency to substitute dreams for action. There are situations where intense concentration is quite necessary and suitable. The scholar in his study, the scientist in his laboratory, the surgeon performing an operation, must all be protected from distracting social stimuli in order to solve their problems and make their contributions to society. Perhaps both our Greek philosopher and our watch-and-egg scientist thought of something that far outweighed in value the losses occasioned by their mistakes. But in many cases of absent-mindedness no social product results; the subject is lost in day-dreams which give him some personal satisfaction, perhaps, but which by each repetition make it easier for him to withdraw into himself again, with the grave prospect that he may soon be condemned to bear the unlovely name of "introvert." It is seldom wise to substitute dreams for action. Society "expects each man to do his duty" according to his ability and opportunity and the man who constantly turns inward and avoids action takes upon himself a handicap which will prevent success in many types of work—in almost any vocation, in fact, where he has to deal constantly with people.

Are you absent-minded? Often? Ever? Do you think it safe? Can we not distinguish the good from the bad elements in this habit? Certainly concentration is often highly desirable. We should learn to neglect distractions when we are at work; we should not attend to irrelevant noises nor to minor bodily discomforts; we should not allow ourselves to wish we might be doing something else, or to worry about ourselves or our future. We should work while we work. But concentration, which shuts us away from others while we are hard at work, need not shut others out when we are at leisure. Introverts are not social successes; we can hardly imagine one being the "life of a party." Of course when we are alone and at leisure, day-dreaming is not anti-social. But even then, if we must dream, why not make our dreams worth while? We can make plans for our future work or for social gatherings, plots for stories, themes for poems, or gather items for an interesting letter home. What a compliment it is to be called "a thoughtful person"! It means one who is thinking about the comfort and happiness of others, however, and not the self-centered thinker. And when an emergency arises and full powers are needed certainly no one can be the man of the hour if he is caught in a brown study, vacant and blank of face, with the best part of him, his mind, absent.

THE HOUSE MODEL

Robert J. Mulligan

The house is a human habitation of fixed and permanent character as distinguished on the one hand from huts, cabins, tents and wigwams, and on the other from palaces.

Human habitation is important both socially and architecturally since it is intimately concerned with the social and family life both of the individual and of the community. Probably ninety-nine per cent of the buildings in the world are houses, and in the plan, arrangement, construction, and decoration of a house, one may trace the progress of human society and civilization. The house, as distinguished from the tepee or wigwam embodies and is the product of the family life as against that of the tribe or clan, and since the earliest temples were undoubtedly conceived of as the dwellings of the gods, they were planned after the type of human house, so that all religious architecture has sprung from that of the primitive house.

The American homes do not retain the massive elegance of architectural form found in the ancient temples, but the nomenclature of many structural parts are retained, such as cornice, fascia, frieze, dado, etc., as used in the Greek and Roman pillars.

Modern individualism has tended to a greater variety of house types than ever before, especially in rural and suburban houses, where limitations of space are less exacting than in closely built towns. Local building materials play a great part in these variations. The country house of the very wealthy reproduced French, English and Colonial types. Until about 1880 all American city houses, in closely built towns, were of almost identical plans. The American, German and English houses present very interesting types. In the United States, wood has been the dominant material. The plans are irregular, the masses picturesque and convenience and personal comfort are sought throughout.

Probably the greatest single human interest is home making but unfortunately there is a general lack of knowledge relative to the terms used in house construction. A common method of describing a feature of a particular building is to use such terms as "doohickey," "thingabob" and "whatyoumaycallit." This method is satisfactory when the description is accompanied by the pointing of the finger to the designated part, if all persons concerned have good vision. But when the one to whom the description is being made is without sight, this gesture is of no value. Realizing this as being an acute fact in detracting from the greatest human interest, home building, Mr. Frank Severne, a member of the Visiting Board and a graduate of the New York State School for the Blind at Batavia, N. Y. proposed that the school purchase or obtain a fully constructed house model, that the pupils might become fully acquainted with all the essential parts of a modern house of wood construction. Mr. C. A. Hamilton, Superintendent of the State School for the Blind at Batavia, New York, recognizing the advantage of such a house model in this school, where many of the children, due to congenital blindness, had not the slightest conception of the construction of a building altogether too far out of their reach for inspection with the hands, welcomed this suggestion and immediately endeavored to find such a structure. Since he was unable to find a complete, fully constructed house of such dimensions as to permit a child to closely observe it by the sense of touch, the teacher of manual training was requested to build such a model with this specific purpose in view.

There being many architectural types of dwelling houses, the most common style was decided upon—the two story house with attic, having a gable roof. Houses are oriented or located with reference to the

street, either by the gable to the street or the eaves to the street. Of necessity, the house model has the eaves to the street, and for purposes of description we will call the street or entrance side the east.

The dimensions of the house are 4′ x 5½′ and the height to the ridge 6′. The structure is in three parts; each part includes a portion of the first and second floor, attic and roof. The east slope of the roof on both the north and south sections each contains a dormer.

The north section contains an inside chimney which leaves the roof at the ridge. The south section contains an outside chimney which leaves the roof at the plate. The central section contains the two outside doors, front and back, on the first floor, a window to the east on the second floor, two flights of stairs, the rest being devoted to halls or passageways. The south section contains the living room, with one window to the east, and a triple mullion to the south. Fireplace and bookcases occupy the west end. On the second floor, are two bed rooms of equal size.

The first floor of the north end contains the dining room to the east, kitchen to the west, and on the second floor a bed room to the east above the dining room, and bath room above the kitchen.

First it was necessary to build a truck upon which to mount the house. Four pieces of 2 x 6, 2′ 9″ long grooved on one edge, two pieces of 2 x 6, 4′ long were used; two of the 2′ 9″ pieces were half lapped to the ends of each of the four-foot pieces with the groove or rabbet to the inside, thus forming two square U's. Two pieces of 2 x 6, 4′ 6″ long each tongued on one edge, one piece of 2 x 6, 3′ long were joined with a half lap at the center point of the 4′ 6″ pieces with the tongues to the outside thus forming a letter H. Each U frame was mounted on four 2″ casters and the H frame mounted on six 2″ casters. The two U's slide toward each other, the tongue of the H sliding into the grooves of the two U's, the result being the H inclosed within the meeting U's. Upon this, the sill was laid in three sections; one section for the south end of the house, one for the middle section, and one for the north section. The construction from here on was standard: girder, floor joist, flooring, sole piece, studding, ribbon board, plate, second floor joist, flooring, attic floor joist, rafter sole piece, rafters, sheeting and roof boards.

In order to make the rooms more accessible and to provide a cross sectional view of the construction, the two through partitions from east to west were each constructed in three parts. The two outside parts which accommodated the doors entering rooms were constructed as a part of their particular section whereas the central section of the partition, being 24″ in width, was constructed with the central section of the house. The inside doors, being 5″ openings, would not allow of access to the rooms but when the sections of the house are separated, the living room has an opening 24″ in width and the height from floor to ceiling is 20″. In all other rooms the opening is 11″ x 20″, and the openings into the middle section, eight in all, are also 11″ by 20″.

The house has twelve two-sash windows, a casement window in each dormer, a front door frame of mullion construction with glazed door and sidelights, a glazed back door, seven two-panel doors, one full mirror door, one single French door with six panes of glass, one milk bottle door with glass panel, front and back porches with abbreviated portico over back porch, three window screens, one screen door, two storm sash and seven sets of blinds.

All rooms except the bath room and kitchen are equipped with picture molding. All rooms throughout the house have base board and quarter round. Inside walls are covered with beaver board and papered, except the kitchen and bath which are enameled in white.

The front hall is equipped with a mirror

door separating the front from the back hall. Each of the two flights of stairs have a hand rail. The second floor back hall contains a built-in linen closet with three shelves and two drawers. A balustrade in the attic encloses the stair well.

The living room is equipped with fireplace, built-in book cases, and a three-piece upholstered davenport suite, with davenport table.

The dining room is equipped with a six legged fall leaf table, chairs, buffet and wall mirror.

The kitchen is equipped with built-in cupboards, sink, towel rack, and built-in ironing board. A swinging door is hung between the dining room and the kitchen.

Each of the three bed rooms is equipped with a bed, a chest of drawers, and a wall mirror.

The bath room is equipped with a built-in medicine cabinet, bath tub, lavatory, stool with flush box, and a towel rack made from wood and enameled white.

The girls' Industrial Department made rugs for rooms throughout the house, as well as stair carpet for the first flight of stairs, curtains and over drapes for windows, mattresses, pillows, sheets and blankets, and spreads for each of the three beds, dining room linen, and other decorative coverings.

The roof is covered with wooden shingles laid three inches to the weather with metal ridge roll, equipped with eave troughs and down spout. Clap boards are laid two and a half inches to the weather. All outside window and door frames and dado board are topped with water caps.

As the following description and nomenclature of parts of the house will indicate, the house is of standard construction. The numerals preceding the articles described, will be embossed on zinc and secured to the designated part, as this key is to be stereotyped in braille for the use of the pupils.

Key

1. Astragal—A strip of moulding on the edge of folding doors, also the moulding used between double swing doors. (To be found on linen closet doors.)

2. Balloon Frame—Due to the scarcity of timber, balloon framing is resorted to in modern construction, making less use of heavy timbers and no use of wooden pins, and using planks and nails entirely. (See full frame.)

3. Balustrade—A row of balusters topped by a rail, serving as an open parapet or stair well. (To be found around the stair well in attic.)

4. Baluster—An upright support of the rail of a balustrade. (To be found in balustrade enclosing stair well.)

5. Base Board—A protecting line of board carried around the walls of the room and touching the floor. (To be found in each room.)

6. Base Moulding—A strip of wood encircling a room nailed to the base board at its juncture to the floor. It may be one of many shapes, usually quarter round.

7. Beaver Board—A commercial name for a composition wall covering, one of the substitutes for lath and plaster. It may be finished with plaster, papered or painted. (Beaver board used on all rooms.)

8. Bed Moulding—A moulding used at the juncture of the frieze board and plancher on a closed cornice, and between the rafters and against the frieze board on an open cornice.

9. Bed Plate or Wall Plate—A plank laid upon the wall, forming a part of the sill, and used to secure the first floor joist.

10. Blinds—Blinds are of frame construction and used as shutters for windows to keep out light and weather. On frame houses they are usually hinged to the outer window or door casing. In the case of brick, concrete, and stone buildings, they are usually hinged to the inner casing. (Seven sets of blinds hinged to the outer casing.)

11. Blind Stop—Three narrow strips of wood nailed to the outside of the window jamb forming a part of the window run, against which the blinds close when hinged to the outer casing.

12. Box Sill—Due to the scarcity and cost of timber, sills are constructed of plank. They are therefore called box sills.

13. Brick—Brick is of clay composition, baked or kilned. (Chimneys are made from wood to imitate brick construction.)

14. Bridging—Bridging is cut in between the floor joist to add to the carrying power of the floors, making the floor more rigid. All of this is accomplished by nailing two sticks between two joists, one piece from the top of one joist to the bottom of the other and the second stick nailed in reverse.

15. Casement Window—A window sash hung on hinges opening in or outward.

16. Casing—The enclosing frame around a window or door both inside and out.

17. Chimney—That part of the building which contains the smoke flues, made of brick, stone or other fireproof materials.

18. Chimney Cap—A protective covering for the top of a chimney, made of brick, cement or iron.

19. Chimney Flue—The lining of a chimney made of fireproof clay.

20. Chimney Saddle—When a chimney is built through the roof at any point other than the ridge, a structure is built between the roof and the chimney, in such a way as to throw the water to either side of the chimney.

21. Chair Rail—A protective board extending around the room, at the height of the back of a chair, often crowning the wainscoting.

22. Clap Board—The weather covering of a house. Other materials are used such as shingles, brick, metal and stucco plaster.

23. Comb Board—Two boards, one edge of each being nailed together, straddling the ridge of a roof, finishing off the shingle or slate course. Modern houses are equipped with a metal ridge roll.

24. Conductor Pipe—A pipe leading from the down spout of the eave troughs to the ground, cistern or sewer.

25. Corner Board—Two boards, one edge of each being nailed together and fitted against the corner of the house extending from the frieze board to the water table. Not to be found on houses covered with material other than clap boards.

26. Cornice—A cornice is that part of the roof extending beyond the building and designated as open or skeleton or box cornice.

a. A box cornice consists of a fascia board and plancher board nailed to the rafters, and frieze board nailed to the building below the plancher board, and bed moulding nailed at the intersection of frieze and plancher boards.

b. Open or skeleton cornice is constructed by securing the fascia board to the end of the rafter tails. The frieze board is notched to accept the rafters, allowing the board to meet with the roof boards. Bed moulding is cut in between the rafters and secured at the intersection of frieze and roof boards, the roof boards taking the place of a plancher. Rafter tails are exposed, hence the name open or skeleton.

27. Cove—A concave moulding, commonly used on stairs, nailed to the risers beneath the nosing of the treads. May be used in other places.

28. Curb—Change of pitch in a roof.

29. Curb or Mansard Roof—A roof having a double slope, or composed on each side of two parts unequally inclined.

30. Dado—Inside or outside base board when same is heavily carved or ornamented as the base of a statue.

31. Dividing Strip—The strip between two window sash, fitted into the rabbet of the jambs. This is sometimes called window check.

32. Dormer—A dormer window is one placed vertically in a roof, also the gablet or house like structure built on the roof in which it is contained. (House model has two dormers.)

33. Door—The movable frame of boards or other material, turning on hinges or sliding, by which an entrance way into a house or a room is closed or opened.

34. Door Casing—See Casing.

35. Door Frame—That structure into which the door is secured, consisting of an inside and outside casing, side and head jambs, stops and sill, and threshold for outside door.

36. Door Jamb—The three inside boards of a door frame against which the door is fitted. Outside doors are equipped with rabbeted jambs whereas inside doors have stops nailed to the jambs.

37. Door Panel—That part of the door surrounded by stiles and rails. A door may contain one or more panels.

38. Door Rails—Horizontal pieces in the structure of a door.

39. Door Sill—Used on outside doors. The floor is cut away and the sill is set on the sill and joist of the house. It extends beyond the weather boards and is inclined so as to shed water.

40. Door Stile—The vertical pieces on either side of the door. When there are one or more they are called the central or mullion stile.

41. Door Stop—Strips of lumber nailed to the jambs of inside door frames, against which the door closes.

42. Down Spout—A small piece of pipe soldered to the low end of the eave troughs entering the conductor pipe.

43. Drip Cap—A triangular moulding nailed against the sheeting and above the outside head casing of doors and windows and above the outside base board. The weather boarding is nailed over this, forming a protection against rain.

44. Eaves—The edge or lower borders of the roof of a building, which overhangs the wall and casts off the water which falls on the roof.

45. Eave Troughs—A metal device hung at the eaves of the roof to catch the rain and conduct it to the ground, cistern or sewer.

46. Fascia—That board nailed to the end of the rafter tails and continued along the edge of the roof boards at the gable end.

47. Flashing—Tin or iron used between shingles and any part of a house structure extending above the roof. Also used on hips and in valleys.

48. Floor—The structure formed of joists and girders, which divides a building horizontally into stories.

49. French Door—A door which has several glazed panels, the panels being divided by muntins.

50. Frieze—That board which extends around the house at the top of the tableture and beneath the cornice.

51. Full Frame—A frame consisting of heavy and solid timbers, morticed and tennoned and pinned together. The holes into which the pins are driven are fitted so that when the building is empty in the dry hot season, the pins may be redriven thereby taking up the shrinkage which occurs in wooden timbers.

52. Gable Roof—A double sloping roof which forms a gable at each end, the gable being the vertical triangular portion of the end of the building.

53. Gables—The vertical triangular portion of the end of a building from the level of the cornice to the ridge of the roof. Also a similar end when not triangular, as of a Gambrel roof or the like.

54. Gambrel Roof—A kind of hipped curb roof composed of each of two parts unequally inclined, the gable being pentagonal.

55. Girders—The horizontal timber or structure used to support the end of the joist.

56. Glazed Door—A door one panel of which is glazed.

57. Glazing—The act of furnishing or fitting with glass, such as in windows and doors.

58. Head Casing—The top horizontal board on the inside or outside of a door or window casing.

59. Hip—The external angle formed by the meeting of two slopes or planes of the roof, which have their wall plate running at an angle to each other.

60. Joist—The supports upon which the flooring is laid which are spaced sixteen inches apart in standard building.

61. Lugs—Any projecting part of a larger member as in window or door sill, stool and side jambs of window and door.

62. Mansard Roof—See Gambrel Roof.

63. Mantle—A shelf, over a fire-place, which may be of lumber or other material.

64. Meeting Rail—The lower rail of the top sash and the top rail of the lower sash are the meeting rails, so constructed as to keep out the weather.

65. Mop Board—See Base Board.

66. Mullion—When two or more windows are included in one frame, the inner or middle casings are called mullions. Also on a door having more than two stiles, the inner or middle stiles are called mullions.

67. Muntin—The small intersecting bars in a sash or door, securing the glass, are called muntins or sash bars.

68. Newel Post—The post at the foot of the stairs.

69. Nosing—The ends of the treads extending beyond the risers, and the strips of board extending beyond the floor at the top of a set of stairs, are the nosings.

70. Pane—A sheet of glass used in either window or door.

71. Panel—See Door Panel.

72. Parting Strip—See Dividing Strip.

73. Picture Moulding—The moulding extending around the room at a convenient height from which pictures are hung.

74. Pitch—The pitch of the roof or rafters is the ratio of the rise of the rafters to the span or width of the building. The pitches most commonly used are half, third and quarter.

75. Plancher—Plancher is that board which forms the under side of a box cornice.

76. Plane—Plane is the inclined surface of the roof.

77. Plate—The horizontal timber laid on the wall or studding to carry the trusses or rafters of a roof.

78. Quarter Round—See Base Moulding.

79. Rafter—One of several timbers framing the roof.

80. Rafter Tail—That part of the rafter forming the cornice or eaves of a building.

81. Rake—The rake of the roof is the pitch of the roof.

82. Ribbon Board—or Ribband Board—A board which is gained into the studs of the wall frame and is used to support the wall end of the second floor joist.

83. Ridge—The top edge of the roof formed by the meeting of the two planes.

84. Ridge Board—See Comb Board.

85. Ridge Piece—The board to which the rafters are secured at the ridge.

86. Ridge Roll—See Comb Board.

87. Riser—The boards in a flight of stairs which are placed vertically on edge beneath the treads.

88. Roof—All materials and construction necessary to carry and maintain the cover of a building.

89. Saddle—See Chimney Saddle.

90. Sash—Upper and lower frame construction of a window, securing the glass.

91. Sash Bar—See Muntin.

92. Sheeting or Sheathing—Those boards nailed to the outside of the frame of a house to which the weather covering, such as clap boards, shingles and stucco plaster are fastened.

93. Shingle—A weather covering for a roof. Also used as a weather covering for the sides of a building. A shingle as a unit of measure is considered to be four inches square. There are four bundles to a square and a square is one hundred square feet.

94. Shoe—A horizontal piece to which the lower end of a studding is nailed.

95. Side Casing—The two vertical side pieces on both the inside and the outside of a window or door frame.

96. Sill—A horizontal timber or structure such as a box sill, laid on the wall, which receives the ends of the joists and is the foundation of wood construction buildings.

97. Sole Piece—See Shoe.

98. Stile—The two side pieces in a window sash and the two vertical side pieces in door construction. (See Mullion.)

99. Stool—The board on the inside of the window frame resting on the window sill against which the lower sash meets. An enlargement of this board is called a window seat.

100. Stop Bead—Three narrow strips of wood nailed to the inner edge of the face of the three window jambs completing one edge of the run for the inner and lower sash.

101. Storm Sash—A single sash with two or more panes of glass fitted into the outside of the window frame supported on the inside by the blind stops and on the outside by the use of sash buttons.

102. Stringer—Used in stair construction. There are two, one on either side. Their length is what is known as the rise and run of the stairs. Their construction is either rabbeted or sawed to receive the risers and the treads. The stringers are secured to the wall board.

103. Studding—The upright pieces which form the frame of the building in balloon framing.

104. Tableture—Any plane surface of a wall.

105. Threshold—The sill is rabbeted out to form the threshold, which allows the door to fit tightly and gives a clearance to the door for carpets and rugs. Thresholds are not being used on inside doors. Due to the form of construction of the house model it was advisable to use thresholds throughout.

106. Tile—A plate or thin piece of baked clay which is spoken of as fireproof. Tile used in the house model is an imitation, being made of wood. (To be found on the floor in front of the fireplace.)

107. Tread—That part of a flight of stairs upon which you step in ascending.

108. Valley—The place of meeting of two slopes of a roof which forms a re-entrant angle, assuming that the roof of a house is a prism and the roof of a dormer, a similar prism.

109. Wall Board—See Stringer.

110. Wall Joist—That member of the sill which stands vertically on edge secured to the wall or bed plate and receives the ends of the first floor joists on two sides of the building and parallels the floor joists at their same level on the other two sides of the building.

111. Water Table—This includes the outside base board and adjacent drip cap.

112. Window—An opening in the wall of a building for admission of light and air, usually

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MARIONETTES FOR BLIND CHILDREN

MARCELLA HASSELBERG

It was with a great deal of skepticism that the teachers of the Pennsylvania Institution for the Instruction of the Blind brought their children to the marionette show. It was first presented for the kindergarten, first, and second grades by Frank and Elizabeth Haines, professional artists, at their studio in Philadelphia. Later the play "Hansel and Gretel" was given at the school. How, asked the teachers, could anything that depended so completely on sight for appreciation, be enjoyed by blind children? What could they possibly get out of it? But very politely they brought the children into the first grade classroom and seated them in front of the tiny stage.

The play began and for a few minutes the children sat quietly listening. Then something amusing happened and there were a few chuckles. Soon the children were screaming delightedly over the adventures of the Three Little Pigs. The less emotional ones, afraid of missing something, demanded that the others "Sshh." The teachers looked at each other, and slowly their theoretical doubts slipped away.

This was two years ago. The holiday performance is now considered among the very best of treats." And the teachers are satisfied, too. They have discovered that the marionettes are helpful.

But first, here is the way Mr. and Mrs. Haines present the marionettes.

The children with partial sight sit about three feet from the stage. "This is much closer than the average audience is allowed to come," Mr. Haines explained. "Such a close range view means, of course, that very little of the performance is lost on this group."

For the benefit of the rest of the children a clown comes out on the stage before the play begins and gives a description of the setting. Done with a great flourish it becomes a prologue to the play instead of a recitation of facts.

During the play the important thing is to have the children follow the action, not just listen to voices. They must be aware that the figures are moving, and they must think of the voices in connection with these figures.

"In all our performances," explained Mrs. Haines, "we throw our voices so that they will seem to come from the puppets. When the Gingham Doll runs across the stage, I make my voice follow her. If the marionettes keep moving about, and the voices remained fixed, there is an air of artificiality about the performance that even children sense."

This device is most helpful in performances for the blind. Through the movements of the voices the children are able to follow, within certain limits, the movements of the marionettes. The patter of the feet on the stage floor is another aid. These two factors help them place the puppets.

If they become confused, or fail to understand something that has happened, they wait until the end of the act. It is then question time, and the performers jump out of character and do their best with the unexpected queries shot at them.

When the performance is over, the children are allowed to handle the marionettes. This they enjoy almost as much as the play itself. Little girls, touching Gretel's braids, gasp at her loveliness. The boys pretend to be very fearless as they put their fingers over the wolf's mouth. Exclamations of "Isn't she sweet!" and "Look at his pretty shoes!" show that none of the details are lost on the children.

The selection of the plays is even more important than the use of the devices described above. It is the play that must hold the child's interest, and if he likes it he will do his best to get the most out of it.

"The plays must have plenty of dialogue," said Mrs. Haines. "We are always most careful about that. We could not, for instance, give our circus which is almost entirely action."

Among the plays that have been given at the Overbrook school are "The Three Little Pigs," "The Gingham Doll and the Calico Cat," "Hansel and Gretel," and "The Gingerbread Boy." All of these have the necessary dialogue and at the same time fill the requirement of simplicity demanded of any presentation for young children.

Some time before the show is to be given, Miss Margaret A. Philips and Miss Anna K. Hartman, teachers of the first and second grades, tell their children the stories to be acted and have them thoroughly familiar with the plots.

"It is remarkable how enthusiastic the children are about it," Miss Hartman said. "Often we hear them describing the plays to each other and acting the parts they particularly liked."

And it is just this, Miss Philips believes, that makes the marionette a real benefit to the children. It interests them in dramatization.

"After the children heard the show, interest in dramatizing increased tremendously," she asserted. "Classroom work became noticeably better and I am certain it was due to the marionettes. Children are, of course, clever imitators, and having caught the feeling Mr. and Mrs. Haines put into their plays, they tried to imitate it."

This interest proved itself to be in no way transitory. Throughout the year work was consistently better. It was as if a sense of dramatic values was suddenly made clear to them.

In this school, dramatization is an important part of the work in the primary grades and increased interest in it, followed as it is by increased ability, is gratifying to the teachers.

For all children marionettes fill a need. Children's plays performed professionally are altogether too scarce, but it is the puppet with its touch of unreality that delights a child even more than real actors can. And blind children, so often more imaginative than others, feel this enchantment.

One little Polish boy just learning in great bewilderment, to speak English, became so excited when the witch was about to push Gretel into the stove, that he jumped up, screaming clearly, if ungentlemanly, "Punch her! Hit her!" To him the wicked old lady who turned little girls and boys into gingerbread was a real menace, and he forgot everything, even that he was speaking in a strange language.

It is possible that others might be interested in trying what was proved successful in this case. Almost every community has at least one group interested in marionettes either as a vocation or a hobby. These people would certainly be willing to accept an invitation to give a performance for a group, and if it is conducted in the way Mr. and Mrs. Haines have done their shows in Overbrook, the children will be delighted and their instructors gratified.

(*Continued from page 75*)

closed by casements or sashes, containing transparent material, as glass and capable of being opened or closed.

113. Window Apron—Part of inside trimming secured beneath the window stool.

114. Window Casing—See Casing.

115. Window Frame—The structure into which the window sash are secured, which includes outside casing, jambs, sill, blind stop, dividing strips, stop bead, inside casing, stool and apron.

116. Window Header—Two horizontal boards, one on either side of the top of the window casing.

117. Window Jamb—The three inside boards of a window frame against which the window sash are fitted.

118. Window Sash—See Sash.

119. Window Sill—Outside of lower part of the window frame inclined to shed water, rabbeted on under side to receive the clap boards.

120. Window Stile—See Stile.

121. Window Stool—See Stool.

122. Window Stop—See Stop Bead.

123. Yoke—A head jamb connecting the two side jambs.

In compiling the foregoing data the writer realizes that there are many local terms in use by contractors and carpenters in naming the parts used in house construction, but those terms more generally used are herein given.

HARVARD N1 AND N102

Anna Gardner Fish

The course on the Education of the Blind, sponsored by the Graduate School of Education of Harvard University and conducted by Dr. Edward E. Allen, Director Emeritus of Perkins Institution, with Miss Jessica Langworthy as his assistant and mainstay, began in the year 1921-22, as an extension half-course but was raised to the status of a regular half-course in 1925-26, counting one-sixteenth towards a degree at Harvard to its accredited students.

In the thirteen years of its existence it has had 182 pupils, 175 of whom have received Harvard's certificate as having successfully completed the course. These young people have been drawn from many widely separated countries:—Cuba, Porto Rico, Mexico, Colombia, Chile, Bermuda, Canada, Alaska, Hawaii, Japan, India, Egypt, Greece, Germany, Holland and Norway; and from twenty-nine different states.

Many of these students have had previous connection with work for the blind, and in most instances these have returned to their positions, usually with added zest and broader and richer background for their tasks. Others have been recent graduates from colleges, who have chosen to specialize in this field of labor, and it has been a great satisfaction to note how many of them have been valuable additions to the workers along this line. Some have found their niches in this country, east and west, north and south, but other graduates of the course are carrying on in such distant fields as Syria, India, Java, Japan, Alaska, Hawaii, Chile, Colombia.

While it is impossible to single out individuals from among those who have planted the seed of Perkins' spirit and ideals far afield, creating a "little Perkins," yet mention may be made of Señor Juan Escobar (1931-32), who returned to the school for the blind in Santiago, Chile, and Senor Alcides Luque (1928-29) from the school in Bogota, Colombia. These young men found their tasks here onerous indeed, since the knowledge of English which had seemed so ample at home proved woefully inadequate when it came to the required reading and listening to lectures intensely in a strange land. Fortunately, helpers were at hand with sufficient acquaintance with Spanish to lend much-needed aid.

Miss Eva Smyth (1928-29) went back to Honolulu and has done good work there for both school children and adult blind; and Miss Melba Call (1929-30) has courageously undertaken the task of instructing a class of blind Eskimo children in bleak, far-off Alaska. Miss Eugenia Cortes (1929-30) has begun with zeal to give long-awaited training to the young blind of Mexico; and Dr. Erich Wittke (1929-30) has returned with renewed vigor to his school in Chemnitz, Germany. Mr. Ras. M. Haldar (1931-32), after completing this course, entered Boston University and proudly bore home with him the degree of Ed.M. Miss Zahia Metwali (1932-33) can hardly wait to begin in Egypt her campaign against ignorance and needless blindness.

Both Dr. and Mrs. Ralph V. Merry (1927-28) completed this course and made good use of the fund of knowledge it afforded. Mrs. Merry is an expert in psychological testing of children. Dr. Ralph Merry is the author of *Education of Visually Handicapped Children,* one of the outstanding books on this subject and a distinctly valuable contribution to our literature.

It may be of interest to note the occupations which are engaging some of these earnest young workers. They are: teachers, lecturers, authors, heads of workshops or of associations for the blind, missionaries, librarians and homemakers. Naturally, some have departed from this work in order to enter some other field of action, but all have retained a live interest in the blind which is

fraught with possibilities of helpfulness toward individuals or in social service with groups.

From every point of view the course has justified its existence and gives promise of long-continued usefulness and progress. Since 1925-26 it has been supplemented and enhanced by a "special methods" course, carried on by Miss Langworthy, listed by Harvard as N 102, and giving credit to those who duly register for it at Harvard and pay the regulation $40 fee for that half-year course in the second semester of the school year. This course, although active throughout the school year, becomes intensive only when the general course (Harvard N1) ends in January. It affords actual participation in classroom work, with observation and practice teaching, and adds a splendid superstructure of practical value to the foundation laid in the Harvard course (N1).

As the number of applicants for this preparatory training far exceeds the facilities which Perkins Institution can offer, through living accommodations, library and practice teaching, by no means can all be accepted; so careful consideration has to be given to the merits and background of each one, and to the promise of future service in work for the blind. For this reason it is important that applications should be filed by the first of May, so that decisions may be made during that month and the class for the ensuing year completed.

Many schools for the blind and teachers of blind children throughout the United States have ordered the new American Foundation for the Blind Braille Typewriter. These machines will be used for individual instruction and by the teachers for transcribing supplemental material into braille for the use of their blind students. The machines sell for $35 f. o. b. New York.

THE TEACHERS FORUM
for
Instructors of Blind Children

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SOCIAL TRAINING

Recent published literature on the problems of the education of the blind has emphasized the necessity for a thorough training of blind children in preparation for their present and future social life both at home and in society. It has called attention to the fact that often the success or failure of a blind person in any vocation may be determined not only by his ability but also by such factors as cleanliness, good manners, personality, and character.

The death of Lady Campbell has recalled a most excellent paper on the subject "Training in the Requirements of Social Life at Home and in Society; and the Best Methods of Securing It," which she delivered at the Third Triennial Conference on the Blind and Exhibition held in Exeter, England, in 1911. This paper is published in the Report of the Proceedings of that convention. Lady Campbell at that time was teaching in the Royal Normal College for the Blind.

Lady Campbell outlined the effect of good or bad manners on the blind individual and on those with whom he or she associates. She called attention to such questions as: manner of walking, talking, and eating; awkward habits and mannerisms; and methods of overcoming the results of defective home training. She told how to secure cleanliness,

neatness, proper table manners, correct etiquette of social life, courtesy, kindness, and consideration of others.

Though written over twenty years ago the article still is applicable today and merits the attention of all educators of the blind.

NEW YORK STATE SCHOOL FOR THE BLIND

It has long been a custom of the New York State School for the Blind, Batavia, N. Y., to have weekly Friday evening recitals in the music department. These are given soon after supper in order not to interfere with other engagements for the evening, and are usually about three quarters of an hour long. At these recitals all pupils who study music are given an opportunity to perform. The programs present a variety of piano, violin, organ and vocal numbers. Each of the different teachers presents from one to three numbers each time, and occasionally the pupils of one teacher will furnish the entire program. The monotony is sometimes varied by having an evening of selections from one composer, as Bach, Beethoven or MacDowell, and short talks given about their lives and works.

As the time approaches for the midyear and closing recitals, the best things heard at these weekly gatherings are chosen for public performance. A new departure this year has been the addition of community singing for familiarizing the pupils with some of the standard old fashioned songs. The interest in this has been keen and the pupils have enjoyed it. It bids fair to be a very helpful adjunct to the work of the music department.

Teachers of vocational guidance in schools for the blind should be familiar with the Vocational Series published by the American Foundation for the Blind, the last issue of which is entitled "Professional Writing—Opportunities for the Blind in Journalism and Allied Fields," by Gordon Lathrop. Other articles in this series are: "Insurance Underwriting—A Study of the Business in Its Relation to Blind Agents"; "Osteopathy—Opportunities for the Blind in Training and Practice"; and "Stand Concessions—As Operated by the Blind in the United States and Canada." The pamphlets sell for fifty cents each.

Our Contributors

Miss Kathryn E. Maxfield is well known to *Forum* readers as former editor of this magazine. She is now acting as Director of Personnel and Research at Perkins Institution. Next year she will be Director of the Arthur Sunshine Home and Kindergarten for Blind Babies at Summit, New Jersey.

Miss Helen J. Coffin is Director of Braille and Sight Saving Classes in the Cleveland Public Schools, in which capacity she has served a number of years.

Dr. Samuel P. Hayes, Professor of Psychology at Mount Holyoke College, is acting as Psychological Assistant at Overbrook and Perkins, and is Consulting Psychologist for the American Foundation for the Blind.

Mr. Robert J. Mulligan graduated from the New York State School for the Blind at Batavia in 1910. He taught for several years in the New Mexico School for the Blind and has had charge of the boys' industrial work at the school in Batavia since 1916.

Miss Marcella Hasselberg is a graduate of Temple University, Philadelphia, with a major in journalism. Her article in this issue is written as an interested observer of the demonstration of marionettes before blind children.

Miss Anna G. Fish has been Secretary to the Director and Registrar at Perkins Institution and Massachusetts School for the Blind for a number of years.

The Teachers Forum

FOR

INSTRUCTORS OF BLIND CHILDREN

VOL. VI MAY, 1934 No. 5

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THE BIOLOGY LABORATORY PERIOD

Francis M. Andrews Jr.

When one is told that blind children do laboratory work in Biology which requires dissecting, two questions are generally asked: "How can they do it?" and "Do they get anything out of it?" Naturally, the results differ according to each individual child's ability in following directions and his skill in handling objects.

In order that each pupil receive as much as possible from the laboratory period, it is advisable that each one have his own set of dissecting tools which consists of: a cartilage knife, dissecting needle, scalpel, long, thin, pointed dissecting scissors, forceps, pins, and a dissecting pan with metal loops in each corner and a wax covered bottom. A place should be provided in the laboratory where each child may keep his set. Every student should have his own freshly killed or preserved specimen to examine and dissect.

A certain amount of time should be spent as instruction periods in the technique of handling instruments while dissecting. This will vary from one to two laboratory periods, depending upon the size of the class and the individuals within the group. Instruction should also be given as to the care of the tools. All of this will prove most helpful later on.

Since insects are plentiful in the fall when school opens, we begin our study of Biology with this type of life. Several poison bottles are made by the class. This is very simple for all one has to have is a small covered bottle, preferably a half pint size. Put a spoonful of powdered or pulverized potassium cyanide into the bottle. Thoroughly mix some plaster of Paris in water until it forms a thin paste. Pour this over the cyanide until it forms a layer one inch thick. Let it harden. The students must be told of the dangerous poison which they have used and how to care for the bottle. At the end of the season these bottles should be collected and the poison removed.

After the poison bottles are made, the class is ready to collect some insects. Beetles, grasshoppers, and butterflies are generally present in sufficient quantities to catch. There are many parts of these insects which are tangible to the totally blind pupils, such as: the scales on the wings of the butterfly, the long thin antennae, the long slender legs, the oval body, etc. All of these the pupils find are quite diferent from the wings of the beetle or grasshopper. The hard shell, the prominent jaws, the clinging legs of some of the beetles are easily distinguished. The grasshopper with his different type of legs and wings, shows how this insect has adapted certain parts of his body for special purposes. The student is most interested in discerning the difference between the male and the female. Of course the teacher will also want to make some large drawings, with the dressmaker's wheel, of the parts of the insects studied so that the fingers may more clearly realize what has been described and felt. In the spring of the year the insects are further studied in their relation to Botany.

The earthworm is used in our first dissecting lesson. There is practically nothing within the worm which is tangible to our students but there is an opportunity to start cutting without the fear that the specimen is going to be ruined in our first attempt. One learns to find the posterior and anterior end, the dorsal and ventral side. One can pin the worm open after it has been washed out. All of this is good practice. Before dissecting one wants to try to locate the girdle, the bristles, the mouth. In all of this work, study the specimen carefully from the outside before venturing within.

Clams may be easily obtained at little

cost and furnish an interesting study for the pupil. The valves, the umbo, the muscles, the abdomen, and gills are all distinguishable to our students.

Starfish furnish us with an example of regeneration of parts which is nearly always found on some one of the specimens. The boys can locate the rays and the stomach. They will also be interested in scraping away the tough outer covering in order to see the bony structure beneath.

The crayfish with all of its numerous appendages which are so highly developed for some special task is of intense interest to the class. The internal structure is far more tangible than anything the pupils have had up to the present time. Some of the class will actually be able to follow the digestive tract. The heart, the stomach and the pancrea may be located. The flexible muscles of the abdominal region are clearly felt.

Fish may be bought at any market. I found that the class was most interested in the study of the gills of the fish. The shape of the body, the locations of the fins, the scales with their slimy covering—all these give the class a better understanding of this form of life. The location of the internal anatomy increases the child's respect for the wonders of nature.

Good-sized bullfrogs give the students a wealth of material. After thorough examination, skin the specimens. The pupils will then have an opportunity really to appreciate the beautifully muscled body and legs of the frog. These muscles may easily be separated with the needle. Care should be taken when the abdominal cavity is cut into, in order not to disturb any of the internal organs so that they may be carefully studied. Everyone will want to examine the contents of the stomach.

After one has skinned a snake, one is able to see the real beauty of the scales. The pupils are generally surprised to learn that these scales are practically transparent and that the colored portion is under the scales. The coolness of the body gives one a feeling of sliminess. When the internal organs have been removed, the boys are able to get a clear idea of the backbone and the ribs.

We had only one hen to dissect as we felt it would be too extravagant for each one to have his own. The hen is killed just before class. The pupils help remove the feathers and after each step in the dissecting process every member of the class is given an opportunity to see exactly what is there.

In the spring of the year we go into the botany end of biology, using the grounds as an ever changing and living laboratory. We do, however, incubate fifty eggs. At the end of every twenty-four hours an egg is broken so that we may watch the progress of the embryo chick as it develops. By the seventh day there is enough solid matter to be tangible to the blind student. Changes come so rapidly from then on that there is much to see.

Models from the museum are used but where it is possible to get a preserved or freshly killed specimen, by all means do it. The students, at first, may not want to handle all the slimy mass of material but soon they are carried away by their interest in finding out for themselves how the liver feels, or how long the intestines of a frog may be, or the surprising contents of the frog's stomach. Will the boy who has removed the snake's heart ever forget the sensation he had when the heart began to expand and contract when it was stimulated? What better means can we have of teaching embryology than that of incubating eggs and watching the development of the embryo every twenty-four hours?

In our laboratory work let us have faith in our pupils and give them the opportunity to discover for themselves through a worthwhile laboratory course.

As of April 1, 1934, the offices of the National Society for the Prevention of Blindness have been removed to 50 West Fiftieth Street, New York, N. Y.

VACATION PROJECTS IN SCHOOLS FOR THE BLIND

M. Genevieve Coville

In the field of child study, the home has become a focus of attention. The influence of the child's environment and the contribution made to his welfare by the community or by civic and social organizations during the pre-school years and the vacation periods have become matters of educational importance. More and more attention is being directed to the establishment of day nursery schools, and to parent education as to the needs of the pre-school child, but as yet comparatively little has been accomplished along the line of directed vacation activities.

When it is considered that a fourth of the child's time is spent out of school, in the pursuit of purposeless and unmotivated activities, it is not astonishing that he returns to school in a reluctant mood and unprepared to resume his school life. To keep a lawn in fine condition requires constant and painstaking effort. The landscape gardener would scorn the idea of allowing the grass, and resulting weeds, to grow at will part of the time and expect an excellent result. Yet, as educators, are not we doing just that and with an organism infinitely more precious?

At the Virginia School for the Blind, certain goals of attainment are set up which are not mentioned in our curriculum. They point toward the enrichment of the child's life by imbuing him with a zest and an eagerness for living and by giving him the confidence necessary to become a useful citizen in a seeing world. During the school year, these aims are more or less restricted due to regulations which are necessary when dealing with a group. Those qualities of self-confidence, initiative, and self-expression are repressed and molded to conform to the general standards. The child's curiosity is limited to those activities embodied in highly organized programs. The teacher states the problem and too often thinks it through, expecting the child to accept her interpretation.

The present-day trend of education, however, is away from cut-and-dried procedures and toward directed self-activity of the child. Through experience he learns to face realities, to analyze them, to anticipate the consequences, and to direct his acts accordingly. This fosters the ability to accept responsibility and to grow increasingly independent.

The vacation period is, then, the logical time for the child to develop along the lines of self-expression. It should be the time of activities so motivated that they will contribute to his mental and physical well-being, at the same time forwarding his social adjustment.

In the spring of 1929, the Virginia School for the Blind began working upon definite vacation projects to be carried on by the pupils under the supervision of their parents. First, a series of articles were published in our school paper, *The Virginia Guide,* explaining to the parents the school objectives and how these could be continued during the summer months. Since no one is so vitally interested in the child's progress as the parent, one function of the school should be to enlighten him upon the problems to be faced in the educational development of that child and to secure his cooperation. Also, in helping to carry out those aims, the parent may find many of his own problems solved.

Summer project work means the carrying out of some definitely defined and carefully planned line of work in which a child is especially interested, such as poultry raising, the construction of certain objects, such as traps or bird houses, or doing some line of educational work, followed by an outline of what has been accomplished. There must be sufficient variety in the

various types of project work to suit the age, ability, environment, interests, materials available, and time at the child's disposal.

This work appeals to the child for many reasons. Foremost among these is the fact that the work is concrete and constructive. A child loves to build. By providing him with material with which to build, he is brought into contact with the material facts of life. The blind child, especially, can learn by handling objects, exploring them with his hands, taking them apart and putting them together. The more different things a child can know by handling and building, the more confident he will become, because knowledge, of whatever kind, means power. Through this work, too, the individual's talents are recognized. From such an apparently small beginning may arise the interest which will determine his life's work.

Then there is the factor of ownership. We all possess this instinct of ownership, and educators are beginning to use it to good advantage. It is the basis of the collecting impulse and we are already familiar with the many benefits gained from this. The studies of history and geography may be made vitally interesting through a stamp collection, and nearly every natural science can be studied to better advantage through collections. The child, too, unconsciously develops good habits of method, neatness, and orderliness. He experiences the joy of accomplishment. He is brought to the realization that his work will be valuable or worthless in direct proportion to the effort, time, and interest which he expends upon it. This calls for his ingenuity and he will try to improve upon what he has already done until some degree of perfection is reached.

Project work is valuable educationally. Aside from attaining that harmonious co-ordination of head- and handwork which is so important, the blind child is, at the same time, overcoming many fundamental inhibitions due to his handicap. The chief of these are his reluctance to exert himself physically, the inability to use his hands capably, and the tendency to deal with abstract rather than concrete problems. The educational value lies in the doing—in the power and the consciousness of power thereby gained.

The child develops mentally as well as physically through the effort expended. His physical knowledge of the material world broadens his outlook and, aside from the practical results, gives a moral tone to his life. There is an exactness and precision in manual work which will admit of no deceit. It cannot be false, nor can it be camouflaged to cover its defects, but stands definitely for what it is. This develops a rugged honesty of purpose which cannot be gained from books.

There are various types of project work which we have adapted to the needs of our pupils. In general, they are as follows:

Physical: This should have some definite objective and should be adapted to the needs of the individual child—setting-up exercises in the open air; deep breathing; a brisk walk each day, with a minimum distance as a goal; recreational games, especially with seeing children. We encourage our pupils to learn new games during the summer, in order to bring them back to the other pupils.

Educational: Practicing musical exercises; learning to play hymns, patriotic selections, etc.; writing original poems or short stories; reading and writing reviews of classics for English credit; writing accounts of vacation trips, picnics, and social functions attended. We encourage our pupils to take part in their local church activities and community entertainments.

Money-Making: Making baskets for gift shops; caning chairs; raising poultry, pigeons, or pigs; growing flowers or vegetables for market. We found that many more opportunities were afforded our pupils for making money than we had supposed possible. The parents and, in some instances, the entire community became interested in these summer activities.

Recreational: Building bird houses or rabbit traps; making collections of stamps, shells, kinds of rock, etc., and learning as much as possible about each; listing and studying kinds of birds, trees, etc.; making portfolios of pressed flowers; making scrap books of various kinds.

Summing up the advantages of vacation project work, they are: The child's talents are recognized and may be developed; he is better prepared to meet the emergencies of life because of his practical knowledge of material things; he is storing his mind with valuable facts; he becomes more interested in his environment; he develops power and confidence through ability to do things; he is solving many intellectual problems in selecting materials best suited to his needs and in using his own initiative in carrying them out; by having definitely planned work at hand, he is utilizing much time which otherwise would be spent in idleness; he is gaining ease, poise, and self-confidence through becoming familiar with a great variety of objects and materials.

At the beginning of the session in the fall of 1929, the following report was made: "Among the pupils in general, regular physical exercises were taken. The result of this is evident in their bright faces, glowing with health. The majority of pupils assumed some definite home duty. One little girl reports that she shelled butter beans. We learn that one day she had a party. Like Tom Sawyer whitewashing his fence, so attractive did this little girl make her occupation that soon all her guests were shelling butter beans.

"The older girls churned, washed dishes, made beds, and assumed other household duties which lightened mother's tasks. We find that the boys prepared kindling, carried water, and worked with various crops—corn, hay, cotton, tobacco, and peanuts.

"Many took part, too, in money-making projects. Our girls earned more than one hundred dollars making baskets. One high school girl alone earned half that sum and another little girl made thirteen dollars and twenty-five cents. Several of the boys made money caning chairs, doing errands, working in stores, raising poultry or pigs, caring for pigeons, or doing general farm work.

"The reports show that some progress was made in the educational projects. Many books were read and reported upon. Also, assignments made in piano and other instrumental music were completed. One boy added several chapters to a book he is writing.

"So we must feel, on the whole, that the venture has proved beneficial and well worth enlarging upon another year. Those who have been successful this past summer will prove an inspiration to those who were not enthusiastic over the plan. Then, too, this initial experiment will aid us in making more complete plans and more detailed assignments for next summer."

This planning of summer project work has now become an established part of our school program. It might prove interesting to our readers to hear the results of one of our most recent reports: "Listed among the general activities are: carried wood, water, and coal; ran errands; dug a cellar; fed stock; did housework; read magazines; read classics for English credit; read the Bible every day (there were few exceptions to this); worked in a store; cleaned the yard; cut weeds; tended chickens; cleaned the cellar; worked in the garden; took part in church programs and entertainments; attended many social affairs and often helped with the programs; cared for baby or small children; shelled beans or peas for sale; gathered fruit; helped with laundry work; made poem book; corresponded with Braille Reader's League; made up back work in Latin and Science; practiced piano and violin every day; one boy did all the outside work and helped his little sister with the housework because of his mother's illness. Besides that, he raised twin calves which he sold for $14.50.

(*Continued on Page* 90)

DOCTOR ALLEN SAYS:

MAKING THE MOST OF MORNING ASSEMBLY.

In 1898, before we moved the Philadelphia school out to Overbrook, my Board sent me west for ideas. Of the many brought back, the suggestion as to how a busy superintendent may get and keep in touch with his great family was altogether worthwhile. This came from Frank H. Hall, then in charge of the Illinois institution. He said in substance:—"You noticed this morning all my staff present at prayers. It is always so here; they seem to like coming. As for me I never fail to be present and to give an after-chapel talk. For the head of the school to relegate prayers to subordinates is a mistake. I seldom talk shop and never take this time for disciplining or even for finding fault. Of course I avoid preaching. What I do is to follow up the scripture reading and the singing with about ten minutes of talking on some matter of inherent interest—informing, cheerful, bright, often humorous, and sometimes fortifying. I may explain the latest news, but more often base my remarks upon personal experience. Intimate topics that suggest themselves are plentiful. My audience being a creative one, my difficulty is to know when to stop. Now you will substitute for me the next two mornings and, when you are back home again, perhaps you will try practicing what I preach to every visiting school superintendent who loves teaching young people and can find no other opportunity to do it than immediately after chapel."

This suggestion appealed to me and, finding chapel talking no task but a pleasure, I have made the most of it for about thirty-three years altogether. To have topics enough one needs simply to make his mind "a magnet for relevant material." Anything that really interested me would gain in the telling over routine subjects; and I gradually gathered a drawer full of notes and items, including poetry to read for variety. At Watertown conditions were peculiarly favorable: there our beautiful little chapel was always full, which helped to make the occasion inspiring to us all.

The Perkins ritual was:—a fresh anthem by the upper school chorus of about a hundred voices—scripture reading—a hymn for general participation—saying the Lord's Prayer together—then the chapel talk, and finally a recessional of instrumental music or of singing. During the week before the Christmas holidays everybody hastened to prayers to the caroling of the tower bells. We sang only carols then, the lower school choir sometimes coming over to sing antiphonally with the upper. Because that week overflowed with the Christmas spirit, I omitted the chapel talks as superfluous and interrupting. Other weeks I read mostly from the Old Testament, interpreting the selections only in the manner of reading them. My Perkins pupils should be far more familiar with the Bible than are most American youths.

So the daily chapel became an increasing joy to me and its harmonies and togetherness, I fully believe, of no little help and satisfaction to all. Beginning the school day right was its purpose. It transcended routine, being kept spontaneous, beautiful, participatory, as well as informing. It aimed to open ever new windows and new vistas: and in proportion as I succeeded in making it inspirational did we go out to the day's work with strengthened and purposeful hearts and minds, yet singing as we went.

WRESTLING AND THE PHYSICAL EDUCATION PROGRAM

Neal F. Quimby

Five years ago wrestling was initiated at the Pennsylvania Institution for the Instruction of the Blind at Overbrook, in an attempt to find a suitable sport involving vigorous activity, enthusiasm, and recreational value, to supplement the necessarily meager winter program. A small group of boys received instruction in the intricacies of the mat game two hours weekly. The results were discouraging at first, and little interest or enthusiasm was shown. The first year the boys merely competed among themselves and tried to master the fundamentals of the game. During the second and third years our boys competed with experienced high school teams of the vicinity and suffered many defeats, with only an occasional victory sandwiched in to keep them from becoming too discouraged. The boys took their defeats with patience and true sportsmanship. Thus, valuable lessons were learned, with wide applications in the big game of life.

Last season we were fortunate in having several veterans upon whom to build, and hopes were entertained of making a reasonable showing to compensate for the two previous seasons of very indifferent results as far as victories were concerned. The Newsboys Athletic Club furnished the opposition for our first meet. It looked like another defeat for Overbrook when the last match had only a few seconds to go, for the score was tied—6-6—and Captain Bodzio was being outwrestled by his opponent. Suddenly, however, Bodzio in one last supreme effort succeeded in getting a position of advantage and quickly pinned his rival's shoulders to the mat, winning the meet for Overbrook by the score of 11-6.

One victory was all that was necessary to give our boys the stimulation to start "going places." The team has now completed two straight seasons without a defeat.

The outstanding performance of the season was, perhaps, defeating the strong and hitherto unconquered team representing Upper Merion High School, by the score of 21-15. Overbrook was not content to rest on her laurels and overwhelmed Lansdowne High School, defeated the University of Pennsylvania Freshman Varsity, conquered the representatives of the large Upper Darby High School, and then concluded the season in a blaze of glory by "whitewashing" Episcopal Academy 21-0.

Victories over the strongest teams in Philadelphia and the suburban section give us a legitimate claim for the interscholastic wrestling championship of this portion of Pennsylvania.

This is certainly an unusual event for a school for the blind when we consider that there are approximately 15 secondary schools in this section with wrestling teams, and that the student bodies in their high school departments range from 400 to 2000. One cannot help but think that wrestling is a sport in which blind boys, by hard work and by mastering the game, can compete on even terms with those who see, when one considers the relatively small amount of available material at Overbrook.

It is of interest to note that a majority of our outstanding wrestlers have been totally blind boys. Three of our four captains during our four years of active competition have been totally blind. Our present captain has only light perception and has won eight straight matches, seven of them with "pins."

This, briefly, is the story of wrestling at Overbrook. The school received a good deal of publicity which was useful in im-

pressing upon the public that blind people have many abilities which may be utilized. The story of a winning team is no justification for the inclusion of wrestling in the physical education program; therefore it is necessary to demonstrate the place which wrestling fills in the program of a school for the blind.

The contacts with the students from the various seeing schools have been extremely beneficial in enlarging the social horizon of our pupils. I recall walking into the locker room of the Upper Merion team and seeing one of our totally blind wrestlers teaching an Upper Merion boy a wrestling hold, before a very interested group of spectators. This boy has learned to meet people and how to conduct himself in new environments. He is developing beyond the limiting influence of an institutional environment.

The new emphasis upon the social aim of education makes it imperative that we consider this aim in our physical education department. Unfortunately, most of the sports and games available for those without sight are of an individualistic nature. Games of this type are valuable and develop excellent traits of character and sportsmanship. However, in many instances they fail to develop that spirit of "living togetherness" so necessary to develop a truly cooperative and socialized individual. Wrestling is included in the category of individualistic sports, but I feel we had the cooperative spirit developed to the point where the boys were more interested in the team victory than in their own individual matches. During the season there were instances when the boys sacrificed their own chances of winning to insure a victory for the team.

Boys have practiced almost by the hour laboring to teach teammates an intricate hold, even though they might be contestants in the same weight class, and teaching their rivals new holds might mean defeat by them in the tryouts for the next meet. That thought did not stop them—the strongest possible team for Overbrook was their objective.

There are several criteria which I feel any sport should meet in order to justify its existence. These are discussed briefly in the following paragraphs.

1. Does it afford all-round muscular development?

The actual wrestling, the development of body skills and the kinesthetic sense in learning the fundamentals, together with the running and exercises done for conditioning work will exercise almost every muscle in the body. It will furnish the stimulation for the heart and other organs of the body so necessary for good health. The training in the skills, the development of coordination and balance can scarcely be over-emphasized. Andrew Shroeder, coach of wrestling at the University of Pennsylvania, has mentioned to me several times the excellent training received in wrestling which helps those without sight to attain good body balance. The accompanying development of self-confidence is immeasurable.

We must adopt a scientific, questioning attitude and recognize that while track work is of unquestioned value and that many benefits are secured from work in the fresh air, with the exception of the running events, it does not furnish any great stimulation to the organs of the body, nor do many of the events develop any great amount of coordination of the type that can be carried over into life situations. The events used in our track program need experimentation and reorganization if they are to fill an important place in our curriculum.

One of the major weaknesses in the physical education department of many public and private schools is the failure to develop a program which emphasizes the development of attitudes and abilities which have a practical application outside the classroom. The problem of the transfer of training is as important in physical education as in the field of general education. Our physical and athletic programs must be scrutinized carefully to discover what constitutes "dead wood" and has remained a part of our pro-

gram from traditional rather than truly educative reasons. Such things as cannot justify their inclusion in the curriculum should be weeded out as soon as possible. I do not believe in hasty, poorly thought-out changes, but only by thought and experimentation can we hope to progress and give our pupils the type of education they have the right to expect.

2. Does it do so without straining the organs of the body?

Interscholastic wrestling, freed from the taint of professionalism, and governed by the strict rules of the National Intercollegiate Association, furnishes excellent development and offers little opportunity for overstrain. The number of injuries is surprisingly small. You find fewer injuries in wrestling than in football or hockey. It compares favorably with basketball and soccer in the small number of mishaps.

3. Can it be engaged in by one person or by two?

Wrestling, bowling, swimming, track, and hiking offer about the maximum of athletic sports which are available for blind students after they leave school. We will need to stress more and more those activities which may be carried on by our pupils when they get out in the world. I believe that the public schools will, in the future, place more emphasis on activities which can be carried over into later life and can be engaged in by small numbers. Golf and tennis and similar sports are being added to the physical education programs in many schools. Our choice is naturally much more limited; consequently we must utilize all those which are available.

4. Is it a sport which can be indulged in for a number of years?

Wrestling may be indulged in for many years after leaving school. It furnishes, along with swimming, hiking, and bowling, a healthful source of recreation. Our so-called "new leisure" makes us conscious of an ever-increasing need for activities of this type.

This sport offers a source of healthful exercise, enthusiasm, and interest. It affords an excellent medium of contact with other schools and boys' clubs. It offers opportunities for competition with schools for the blind as well as with public schools. Most of our better private schools and many public schools now boast teams in the mat game. This gives our schools for the blind many opportunities for competition close at hand, with a minimum of expense, to supplement meets between our schools for the blind.

I hope the experience of Overbrook will pave the way for other schools. Let's look over the situation and see if there is not something really worthwhile for all of us in this game.

(*Continued from Page 86*)

"Besides the above, the amount of $509.54 was earned by these children in the following ways: making baskets, caning chairs, raising calves, shop work, tramping a hay stack, singing for entertainments, and raising chickens."

Besides the benefits already enumerated there are other outcomes which are no less valuable. These concern the attitudes of the pupils and their outlook upon life. In carrying out these projects, developed along the lines of their special interests, these children are acquiring a keener appreciation of relative values, both as regards material things and moral responsibilities. They are realizing the satisfaction, with its attendant self-respect and self-confidence, which comes from accomplishment. Their pride is fortified by the thought that there is a place in the scheme of social life which they alone can fill. This leads to the acceptance of greater responsibilities in the schoolroom and to the development of leadership and initiative in all school activities. The group, as a whole, is more alert and better equipped to cope with the daily problems of their school environment.

FACTORS INFLUENCING THE SCHOOL SUCCESS OF THE BLIND

SAMUEL P. HAYES, PH.D

About ten years ago Dr. Louis A. Pechstein[1] published an article in *School and Society* under this title, using data gathered by D. L. Hint, then head academic teacher in the New York State School for the Blind in Batavia, N. Y. Dr. Pechstein is to be commended for calling attention to many interesting points concerning the population of a representative special school, but he raised issues which cannot be satisfactorily solved through the use of the material at his disposal. An article published at about the same time by the writer,[2] but not distributed in time for Pechstein's use, showed many results contrary to his. As no public comparison of these articles has appeared, it has seemed worth while to reconsider the problems involved and attempt a solution through the inclusion of better and more extensive data. The present paper has been prepared to fulfill this purpose. Pechstein's results have been compared with the writer's findings of the same date, supplemented by many results from recent experiments, thus giving the basis for an up-to-date criticism of his propositions.

Pechstein's report was based upon teachers' marks in the school subjects in one school for the blind, and the final figure he used as an indication of success in school work was the average of many marks in different subjects given in different years by different teachers. From what we know of the reliability of teachers' marks, and the statistical effect of such combinations of marks, it seems safe to assume that too many factors were at work to accept these final averages at their face value. Some evidence of this is found in Pechstein's article, for while the correlations of teachers' estimates of ability with these marks was +.69 for boys and +.78 for girls, the correlation of intelligence quotients with these marks was only +.42 for boys and +.16 for girls.

In the study presented herewith we have been able to use the results of standardized tests in place of teachers' marks, and to present data obtained from many schools—in some cases as many as ten—instead of being limited to the population of one school. We have also made a study of the results of certain standardized tests in the same school where Pechstein's data were collected. The exact method of giving and scoring all these tests is described in the writer's "Self-Surveys in Schools for the Blind."[3]

In order to make the comparison of our work with Pechstein's as easy as possible, we have followed his division of the subject, and will discuss in order the propositions made in his summary.

1. *The influence upon school work of the cause of blindness.*

Pechstein gives a table listing 34 causes of blindness with the number of boys and girls belonging to each group, and then for comparative purposes considers together four groups under "Congenital Blindness" and four under "Accidental Blindness." In the congenital group he includes ophthalmia neonatorum, optic atrophy, congenital cataract, and congenital amblyopia; in the accidental group he puts sympathetic ophthalmia, traumatism and sympathetic ophthalmia, traumatism, and traumatic cataract where blindness was "due to accidental injuries to the eye by gunshot, arrow, scissors, knives, etc." After a study of the school marks he comes to the following conclusions: (1) Pupils who lost their sight through accident may be expected to do the best work; (2) optic atrophy comes next in order; (3) ophthalmia neonatorum cases are third highest for the boys, with the girls practically equal to those of the congenital cases; and (4) the congenitally blind of both sexes do

the least satisfactory school work. This he summarizes in the statement, "The lowest grade of work is done by the congenitally blind, the highest by those blinded accidentally."

A careful study of the data resulting from our use of various standardized tests in two large schools for the blind reveals no significant differences between the congenital and the accidental cases. These data were obtained by the use of the Starch Grammar Test, the Pressey Oral Arithmetic Test, the Trabue Completion Test, Scale B, and the Starch Spelling Test. Besides the results of these representative tests of achievement in the school subjects, we studied also the scores obtained in the Terman Group Vocabulary Test, the Pressey Group Point Scale and the I. Q.'s resulting from individual measurements by means of the Irwin-Hayes Adaptation of the Binet Tests for the Blind. In both schools the attainment of children accidentally blinded was somewhat *above* that of the congenital cases in the Oral Arithmetic and the Starch Grammar Test. In Spelling and Vocabulary, however, the accidental group fell *below* the congenital group. The two groups are practically *equal* in the Trabue Completion Test, and in the group tests of intelligence, the Pressey Group Point Scale and the Terman Group Vocabulary Test. In intellectual ability as measured by the Binet Tests, the accidental group in each school corresponds to the average ability of the whole school, while the congenital groups are slightly lower. On the whole, then, our study of this question in terms of success in standardized tests does not bear out the conclusions developed by Pechstein from a study of teachers' grades.

It is sometimes claimed that with the increasing education of the public in the prevention of blindness, ophthalmia neonatorum will cease to occur in the homes of educated people so that these cases will come only from among the illiterate and thus presumably from the less intelligent strains in the population. This does not yet show in our data, for the ophthalmia neonatorum cases do not test below the other congenital groups, nor below the general level of the population in these two schools.

2. *The degree of blindness.*

Pechstein divides his students according to degree of blindness into (1) the totally blind, (2) those with light perception, (3) those with ability to count fingers at various distances, and (4) those with ability to read the Snellen test cards. He says that the totally blind and those with light perception may be classed together, since light perception is of practically no educational value. From a study of grades he concludes that those with just a little vision (those who can barely distinguish heavily lined maps and simple diagrams) do poorer work than any of the other three groups. This he explains by the fact that the possession of a little vision renders these pupils unwilling to reply upon touch as the totally blind pupils do, resulting in dissipation of effort, insufficient practice in the use of the fingers, and generally poor school work.

We have no decisive evidence to present upon this question but are disposed to agree with Pechstein. In the article above referred to[2] the writer discussed this point as follows: "It is often said that children who are *totally* blind give themselves up more readily to the task of finger reading than those with a little vision and hence learn to read more readily, and that those *born* blind similarly adjust themselves with better grace and rapidity to the use of the fingers. We have considerable evidence that both these propositions are true, though our curves apply only to the latter statement." This evidence will be presented in the next section.

3. *Age at incidence.*

Pechstein asserts that early loss of vision militates against success in school work and that the teachers confirm this proposition. "In general," he says, "the statistics show that early incidence correlates with low school success and that teachers' marks will

be materially better for students not losing sight before the age of two years. Probably the causes responsible for congenital blindness cause wide disarrangement within the nervous system, thus tending to make school progress relatively difficult; also those blinded after infancy have a mass of visual memories very advantageous in school work."

The article by the writer, cited above,[2] was particularly directed to a study of this question. There curves may be found which show the average attainment of children losing their vision at birth, and at succeeding ages, in tests of ability in the following school subjects and mental functions: Starch Graded Silent Reading Test; Courtis Geography Test; Courtis English Composition Test; Terman English Vocabulary Test; Pressey Test of Practical Information; Starch Dictionary Spelling Test; General Intelligence; Irwin-Hayes adaptation of the Binet Tests; Pressey Rote Memory Test; Trabue Sentence Completion Test; Pressey Verbal Ingenuity Test; Pressey Word Completion Test.

The results obtained in the first test in this list are typical of the results in the others. As indicated in the following display of bar diagrams, the median scores of the 289 pupils born blind stand at the same level as the median for the whole group of 500. The scores for those blinded in the early years are equal or superior to this median, but the scores for those blinded later tend to descend to a lower level.

When the results of this test are presented in a "scatter diagram," in which the individual scores are distributed in a table according to rate of reading and age at loss of vision, our contention becomes still plainer. The scores of those born blind are not crowded toward the lower levels, but are distributed quite regularly in accordance with the normal curve of frequency, there being a few very excellent and a few very poor scores, more of the good and poor scores, with the great mass of scores clustered about the median, just as is the case when the scores for the blind of all ages are similarly displayed.

It will be noticed that the above distributions of scores of those born blind takes the normal bell-shaped form, but it should also be noticed that there are a considerable number of superior readers, thus spreading the

TABLE I

The median score for each age group, resulting from the use of the Starch Graded Silent Reading Test in eight schools, from the fourth grade up.

Range of scores in words per min.	No.	16–20	21–25	26–30	31–35	36–40	41–45	46–50	51–55	56–60	61–65
Whole Group	500										
At birth	289										
1 yr.	59										
2 "	23										
3 "	10										
4 "	12										
5 "	10										
6 "	16										
7 "	18										
8 "	12										
9 "	14										
10 "	11										
11 "	7										
12 "	7										
13 "	4										
14 "	2										
15 "	6										

TABLE II

Distribution table showing the reading rate in the Starch Silent Reading Test for the 289 pupils, in 8 schools, *blind from birth.*
Each star represents the score of one pupil.

Rate (words per minute)		
96-100	****	
91-95	**	
86-90	**	
81-85	*******	
76-80	**********	
71-75	**********	
66-70	**********	
61-65	**********	
56-60	**********	
51-55	**********	
46-50	**********	
41-45	**********	Median
36-40	**********	
31-35	**********	
26-30	**********	
21-25	**********	
16-20	********	
11-15	*****	
6-10	*	
0- 5		

rates farther upward. Moreover, those blinded early include an undue proportion of all the superior readers in the 500 tested—of the 24 who read faster than 80 words per minute (about twice the median rate) 18 were students who had lost their vision within the first two years of life.

The results obtained in the other tests listed above show a similar trend and interested readers should study them in the article referred to.[2] Most of the curves are irregular, but this is to be expected in curves formed to show yearly differences; there being only a small number of cases in any year group (except that including those born blind), a very few unusual scores would have a relatively marked effect upon the curve as a whole.

Summing up the results of his study the present writer says, "We have passed in review a series of curves and scatter diagrams formed to show the attainments in different school subjects and in various mental functions of nearly 600 pupils arranged in groups according to the age at which their vision was lost. In *every test* the attainment of those who lost their vision in the early years measured up to the median attainment of the whole number tested, in most cases no upward trend is shown with increased years of visual experience, and in all the tests a considerable per cent of the highest scores were made by pupils of the early blind group. To be sure, we have not presented curves for all the different kinds of tests we have made, and there may be some test in which lack of imagery will prove to be a determining handicap. We have presented, however, all the tests in which one would expect to discover the influence of a lack of imagery, and no such influence has been demonstrated. We certainly have no evidence to date that the congenitally blind have suffered in their educational and mental development because they have been taught in the same classes and by the same methods as the adventitious blind."

Since the last-mentioned article was printed new data have been added to the data included in the earlier paper and tabulated to compare with Pechstein's work, grouping the cases as he does—from birth to 23 months, 2 years to 5 years, 6 years to 10 years, 11 years to 15 years, 16 years to

TABLE III

A. *Combined Schools*	*School Achievement*	*Mental Functions*
Early blinded Superior	Courtis Geog. Map Test Starch Reading Rate	Binet I. Q. Pressey Rote Memory Pressey Verbal Ingenuity
Early blinded Equal	Starch Spelling	Terman Vocabulary Trabue Sentence Completion Pressey Word Completion
Early blinded Inferior	Courtis Eng. Comp. Quality	Pressey Practical Information
B. *Batavia School Alone*		
Early blinded Superior	Starch Spelling Starch Reading Rate Hahn-Lackey Geography Information Courtis Eng. Comp. Quality	Binet I. Q. Pressey Verbal Ingenuity Pressey Rote Memory Trabue Sentence Completion
Early blinded Equal		Terman Vocabulary Pressey Word Completion
Early blinded Inferior	Courtis Geog. Map Test	Pressey Practical Information

20 years, in eight or nine schools (400-600 tested) and in the Batavia school alone (60-80 tested). In both the Batavia school and in the large group of schools those in the first and second groups have distinctly higher I. Q.'s than those in the later groups. A comparison of those in the first group with those in the later groups shows results which are on the whole at variance with Pechstein's results.

Table III shows in which group-tests children losing their sight from birth to 23 months are superior, equal, or inferior to those losing their sight later in life.

A study of this table shows that those blinded early are equal or superior to the other groups in most of the school subjects and mental functions tested. This later study substantiates the earlier one by Hayes and contradicts the position taken by Pechstein based upon a study of teachers' grades in one school.

4. Age at entrance.

Pechstein says that teachers of the blind generally hold to the opinion that the problem of learning to read is much harder for the more mature pupils and that, if sightless children were sent to school when quite young, the entire teaching problem would be rendered easier and better results secured. But after a study of teachers' grades according to the age at which the pupils begin work, Pechstein concludes (1) that entrance before the age of 7 is of no advantage from the standpoint of school success, and (2) that later entrance does not necessarily result in low grade attainments. We have made a study of the *rate of reading* as indicated by the Starch Standard Test in the Batavia school and in one other school for the blind, grouping the cases in the same way that Pechstein did, and a study in the Batavia school of the results of the Courtis Geography Test, Pressey Oral Arithmetic, Starch Spelling, and Courtis Composition: Quality. In all of these tests the curve is highest in the group entering school at the lowest ages and tends to fall in the later groups with some regularity especially in the two middle groups (which is what would be expected from the relatively small number of cases studied); but there is no question that the first group is higher than the last group or the average of the two middle groups. In other words, our results again directly contradict those reported by Pechstein.

5. Sex Differences.

Pechstein reports, "With only three exceptions the arithmetical means of teachers' marks for the boys are higher than those for the girls. Although this condition is contrary to that usually found in public schools, it should not be interpreted to mean that sightless pupils, from the educational

standpoint, are essentially different from those in public schools. Several factors probably contribute to the situation. The course of study may be more attractive to the boys, or the methods of instruction more suited to them. Perhaps the girls devote relatively too much time and energy to the musical, industrial, and gymnastic phases of school work, or study conditions are in the boys' favor. Probably all these are operating to condition the obvious results; namely, the boys under consideration may be expected to do a materially higher grade of work than the girls." Pechstein concludes that such differences are small and insignificant, though the boys surpass the girls quite uniformly.

In our use of standard tests in schools for the blind we have been constantly on the lookout for differences in the scores of the boys and the girls but have repeatedly been unable to note significant differences. For this reason, in our former publications, combined curves for boys and girls have been given except in one curve in the writer's "Report of Preliminary Tests in Reading" [4] in which some difference between the rate of reading of boys and girls was shown in the first school tested. In order to obtain a definite answer to the question all the data thus far collected have been worked over again and curves of median attainment for about 900 boys and girls in 10 schools for the blind have been charted in 31 group tests of school subjects and mental functions. In none of these curves do we find a significant trend demonstrating sex differences. In order to give the results of this large mass of work in readily accessible form, the table on Page 97 has been prepared. In each test the range of scores was divided into 20 parts and the median attainment of the whole number of boys and girls in each test has been indicated by a line which extends to the right across as many twentieths of the total score as each sex has obtained. A casual inspection of this table shows no decided superiority of either sex in any group of tests. In 18 tests the median attainment of the boys and girls falls in the same twentieth; in 8, the boys show some superiority; in 5, the girls show some superiority.

It may be that the special conditions determining the personnel in schools for the blind in some way affect the relative abilities of the two sexes, and that in the factors involved in selecting the school population we must seek an explanation of the fact that the boys are equal to the girls in school work; but there seems no doubt that in schools for the blind there is no decided superiority of either sex over the other. Certainly the large number tested and the large variety of tests used may be considered decisive evidence upon this point.

We were also interested to consider the question of variability in the scores of blind boys and girls, in order to check up the common assumption that males are more variable. A tabulation of the interquartile ranges of the above 31 tests showed the boys were more variable than the girls in 12 tests, equally variable in 11, and less variable in 7. This would hardly justify one in claiming greater variability for blind boys.

Both methods of study lead us to agree with Pechstein that mental sex differences among blind school children are small and insignificant.

Summary

Our study of the results of many standardized tests in ten schools for the blind, with cases running up to 900 in some tests, leaves us in agreement with Pechstein only in the second and the last of his five propositions:

1. *The cause of blindness.* Pechstein concluded that the best work was done by those blinded accidentally, while the poorest came from the congenitally blind. We find no significant difference between the accidental blind and the congenital blind, or between groups whose blindness was due to particular causes.

2. *The degree of blindness.* Pechstein says that those who have just a little vision

TABLE IV

SEX DIFFERENCES IN THE MEDIAN ATTAINMENT OF BLIND BOYS AND GIRLS IN 31 STANDARD GROUP TESTS*

*The details for giving and scoring all these tests may be found in the writer's "Self-Surveys in Schools for the Blind." [3]

do the poorest work. We have no new data on this point, but are inclined to take the same position, from casual observation and from the testimony of teachers.

3. *Age at incidence.* Pechstein maintains that early incidence correlates with low school success, and suggests as explanations the accompanying nervous disorders and the lack of visual imagery. We do not understand how the congenital blind get along without visual imagery which seems so essential to a seeing person; but we do not find those blinded at birth or in the early years inferior in their test results. In some individual cases of congenital blindness we find great superiority.

4. *Age at entrance.* Pechstein claims that entrance before the age of 7 is of no advantage from the standpoint of school success, flatly opposing the opinion of his teachers. Our results support the teachers.

5. *Sex differences.* Pechstein finds the boys slightly superior in school work but considers the differences insignificant. In 18 of the 31 group tests we studied, the boys and girls were practically equal; in 8 the boys were superior, while the girls excelled in 5. Our results thus support those of Pechstein on the insignificance of sex differences.

FOOTNOTES

1. Pechstein, Louis A. "Factors Influencing the School Success of the Blind." *School and Society*, Vol. XIX, 1924, pp. 47-52.
2. Hayes, Samuel P. "Preliminary Study of the Influence upon School Success of the Age at which Vision Is Lost." Pub. Depart. of Research, Perkins Institution, No. 1, 1923, p. 8.
3. Hayes, Samuel P. "Self-Surveys in Schools for the Blind." Pub. Depart. of Research, Pennsylvania Institution for the Instruction of the Blind, No. 2, 1921, p. 60.
4. Hayes, Samuel P. "Report of Preliminary Tests in Reading." Pub. Depart. of Research, Pennsylvania Institution for the Instruction of the Blind, No. 1, 1918, p. 20.

The Houghton Mifflin Company has just issued a new edition of "Closed Doors; Studies of Deaf and Blind Children" by Margaret Prescott Montague. The new edition is enlarged, with one new story, and this new edition should please old readers of these charming stories of life among children at a school for the deaf and blind.

A thesis entitled "The Educational Status of the Blind Mentally Retarded in the United States" by Francis Marshall Andrews Jr., Principal of the Boys' Upper School, Perkins Institution and Massachusetts School for the Blind, has just come to the desk of the Editor. This thesis was presented by Mr. Andrews in partial fulfillment of requirements for the degree of Master of Education at Boston University. It is divided into six main topics as follows:

1. Definition and previous research;
2. Historical treatment, including the opening of schools for the feeble-minded in this country and provision made for the blind mentally retarded;
3. Causes of blindness among the mentally retarded; 4. The opinion of educators as to the care of this group; 5. Course of study; 6. Conclusion.

In chapter 5, "Course of Study," Mr. Andrews deals with the question of teaching the following subjects to the blind mentally retarded: Science, reading, English, geography, history, nature study, gardening, and poultry.

This thesis also includes a bibliography on the question of the mentally-retarded blind.

A. A. I. B. MEETING

An unusually interesting program has been prepared for the biennial meeting of the American Association of Instructors of the Blind which will be held in St. Louis, Missouri from June 25 to June 28 inclusive. Teachers of blind children should find something of interest on each day's program. Attention is particularly called to the program for Wednesday which has been designated as "Teachers' Day." After a few general papers, the group will be divided into several sections, where topics of special value for teachers of varying interests will be discussed.

Information concerning accommodations may be obtained by writing Superintendent S. M. Green, Missouri School for the Blind, St. Louis, Missouri.

THE TEACHERS FORUM
for
Instructors of Blind Children

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The Editor will not be responsible for opinions expressed in signed articles.

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OBJECTIVES FOR THE ARTHUR HOME

Announcement was made in the March issue of *The Teachers Forum* to the effect that Miss Kathryn E. Maxfield, now Director of Personnel and Research at Perkins Institution and Massachusetts School for the Blind, had accepted the position of Director of the Arthur Sunshine Home and Kindergarten for Blind Babies located in Summit, New Jersey. In the belief that readers of *The Teachers Forum* will be interested in the objectives Miss Maxfield has established for her work in the Arthur Home, we are printing them herewith in full:

"1. The fundamental purpose of the Arthur Sunshine Home and Kindergarten for Blind Babies is to promote the welfare of all pre-school children who are suffering from severe visual defects. The Board of the Home, therefore, stands ready to make whatever adaptations in its program may prove necessary in order to meet changing conditions most effectively.

2. The Home wishes to serve as a *laboratory* where the special needs of this seriously handicapped group of children may be studied in order that not only those children shall benefit with whom it is now working, but in order that children in future generations may be profited.

3. Among educators of the blind the opinion has been gaining constantly wider acceptance that blind babies should be trained in their own homes whenever possible. Therefore the Arthur Sunshine Home is interested in the development of a training center for *visiting counselors* whose services shall be available at a reasonable fee to parents and to organizations having to do with visually handicapped pre-school children.

4. The Home welcomes for *residence and training over a brief period of time such parents* of visually handicapped pre-school children as are likely to profit by the experience in order that they may learn how to fit their handicapped child into their family life. A reasonable fee will be charged for this service.

5. Although the Home wishes to return every child to its own home as soon as such return seems feasible, it nevertheless recognizes the fact that there will always be a certain number of blind babies for whom adequate homes cannot be found whether because of their physical condition or unavoidable circumstances. For such children it wishes to be a home as well as a training center during their pre-school period. At present the Home cannot very well accommodate pre-school children who are definitely of an idiot or imbecile degree of mentality, but it stands ready to do what it can to provide accommodations for such children in the future if such provision appears to meet a real need."

Workers with blind children in the United States will watch with interest the development of the objectives of the Arthur Sunshine Home and Kindergarten for Blind Babies as set forth by its new director, Miss Maxfield. It may take some little time for the visiting counselors' service of the Home to function very effectively, at least until the Director and her staff have had an opportunity to train individuals for this work.

THE TALKING BOOK

With the development of the Talking Book, a new reading medium for blind people is introduced which eventually will tend to reduce further the gap between the amount of instructional and leisure-time reading matter available to blind and to seeing people. One of the problems in teaching in schools for the blind has been that of making available to their students a large amount of worthwhile literature. Braille has been, and will continue to be, a valuable means of furnishing this type of material to students, and recent years have witnessed a substantial growth in the amount of braille literature available. However, finger reading has certain disadvantages, such as its ineffectiveness for group reading, and the relatively slow speed with which the average student can read. The Talking Book will enable the average blind student to listen to reading material at a rate similar to that used in oral reading, which is about twice as fast as his speed in reading braille.

To the Editor, there seem to be two possible fields in which the Talking Book may be used in schools for the blind; namely, literature for general reading during leisure hours—particularly in the dormitories—and classroom instructional material. With the establishment by the Library of Congress of Talking Book libraries throughout the country, the first field of use will soon be realized; the second must wait on further experimentation and research.

The Talking Book reproducer is a combination electric radio and phonograph, measuring about 20 by 15 by 9 inches, and is entirely enclosed in a single unit, so that, when closed, it may be carried as is a suitcase. By throwing a small switch the machine is converted from a reading machine into a radio. The instrument is also equipped with various controls which allow for variation in speed of reading and in tone and volume, of both radio and Talking Book reproducer. It also contains a device by which it is possible to play ordinary records.

The records are light in weight, durable, and are designed to give a maximum amount of service with a minimum amount of wear. Each record will play for approximately eighteen minutes on each side. A novel of average length will require from ten to twelve double-faced records.

The introduction of the Talking Book is a step forward in the development of devices for the use of blind people. Eventually, it should prove of great value to educators of the blind.

Our Contributors

Mr. Francis M. Andrews Jr., is Principal of the Boys' Upper School and in charge of the entire lower school of Perkins Institution and the Massachusetts School for the Blind. Mr. Andrews recently received his master's degree from the School of Education, Boston University.

Mrs. M. Genevieve Coville is Principal of the Department for the Blind at the Virginia School for the Deaf and the Blind, Staunton, Virginia. She has been a frequent contributor to *The Teachers Forum.*

Mr. Neal F. Quimby has been Director of Physical Education at the Pennsylvania Institution for the Instruction of the Blind, Overbrook, Philadelphia, Pennsylvania since 1929. He received his master's degree at Temple University in February, 1934. While in college Mr. Quimby gained considerable experience as an instructor of college wrestling.

Dr. Samuel P. Hayes, Professor of Psychology at Mount Holyoke College, South Hadley, Massachusetts, is also Consulting Psychologist for the Pennsylvania Institution for the Instruction of the Blind, Perkins Institution and Massachusetts School for the Blind, and the American Foundation for the Blind.

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